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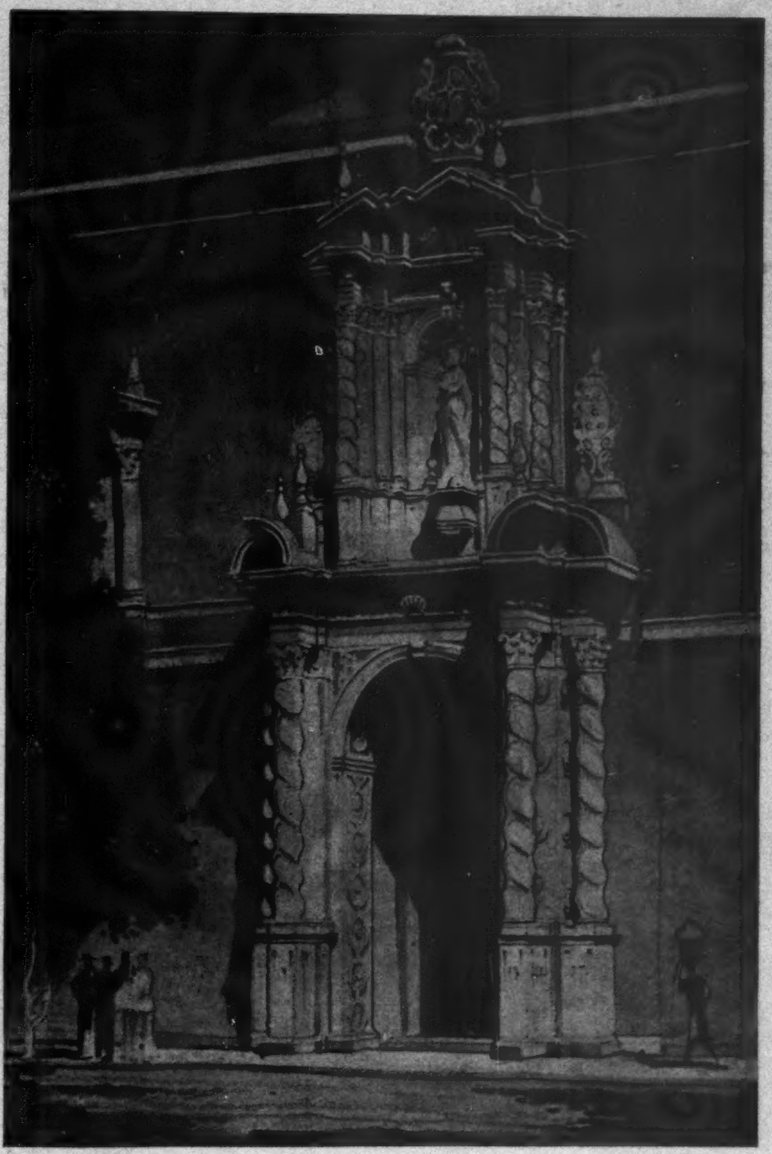


From an Exhibition.

THE UNIVERSITY, GRANADA.

From a Water-colour Drawing by Mr. LAWRENCE WRIGHT, A.R.I.B.A.

MEETINGS

FRIDAY, *December* 6.

Plumbing Trades Central Apprenticeship Council for London. An Address by Mr. L. R. Hyde, M.R.S.I. At the Borough Polytechnic, S.E.1. 6 p.m.

Institution of Structural Engineers (Midland Counties Branch). Mr. A. P. Mason on "Rigid Frame Bridges in Reinforced Concrete." At Leicester. 7 p.m.

Institution of Structural Engineers (Western Counties Branch). Mr. W. H. Dearden on "Some Aspects of the Theory of Corrosion." At the Merchant Venturers' Technical College, Bristol. 7.15 p.m.

L.C.C. Hammersmith School of Building and Arts and Crafts. Distribution of Prizes by Mr. A. B. Knapp-Fisher. Exhibition of Students' Work. At Lime-grove, W.12. 8 p.m.

SATURDAY, *December* 7.

London Association of Builders' Foremen and Clerks of Works. Annual Dinner. At the Prince's Galleries, Piccadilly, W.1. 6.30 p.m.

MONDAY, *December* 9.

Chartered Surveyors' Institution. Mr. A. T. V. Robinson on "Restriction of Ribbon Development Act, 1935." 6.30 p.m.

TUESDAY, *December* 10.

South-Eastern Society of Architects. Mr. Darcy Braddell on "Future of English Domestic Architecture." At 1, Edridge-road, Croydon. 8 p.m.

WEDNESDAY, *December* 11.

Quantity Surveyors' Committee of the Chartered Surveyors' Institution. Annual Dinner. Savoy Hotel, W.C.2. 7.30 p.m.

Royal Institute of British Architects. Discussion on "Architectural Education—its Present and Future." 6.15 p.m.

Institute of Welding. Mr. G. Roberts on "Bridge and Structural Welding." 6.30 p.m.

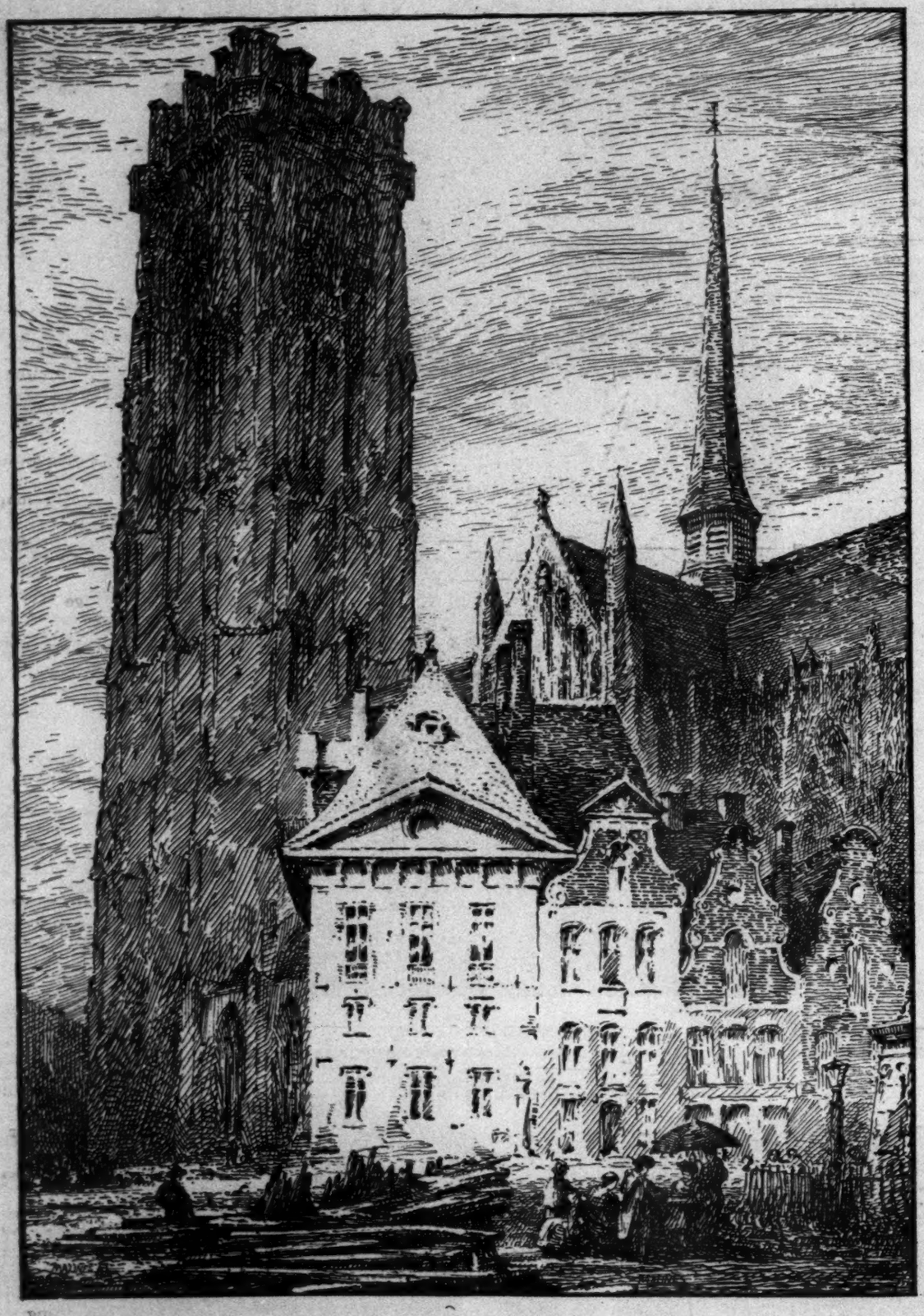
Incorporated Association of Architects and Surveyors. Mr. Percy Lovell on "Vanished City Churches." 7 p.m.

THURSDAY, *December* 12.

London Master Builders' Association. Annual Dinner. At the Connaught Rooms, W.C.2. 7 p.m.

Society of Antiquaries. Mr. C. J. P. Cave on "Roof Bosses in Lincoln Cathedral." 8.30 p.m.

Institution of Structural Engineers. Mr. Leslie Turner on "Bridge and Foundation Problems." 6.30 p.m.



THE MARKET PLACE, MALINES.

FROM A DRAWING BY THE LATE PROFESSOR BERESFORD PITE.

Reproduced from an original in the possession of Mr. ROBERT W. PITE, F.R.I.B.A.] (See page 1004.)

THE WATER FRONT OF LONDON

IT was the River Thames that made London what it is to-day, and during all the centuries the grand old river has been London's greatest servant and its greatest pride. There was a time when the people of London used their river as the best and pleasantest way of getting to an fro, and thousands of watermen made a living on the Thames. From Westminster Stairs to the Tower, with its forbidding "Traitor's Gate," dozens of alleys in the City and Westminster led down to stairs to the river, and on the Southwark side there were sports and amusements for all classes. Here and there along the North bank, among the mansions of the mighty which fringed the South side of the Strand, could be found a monumental gateway with its river steps, a magnificent specimen of which remains to us in the York Watergate, still to be seen in the Embankment Gardens.

The idea of a walk along the river front did not, apparently, materialise until the Dutch influence, which came with the restoration of Charles II, had begun to make itself felt. One of the earliest of these walks that still remains is York-terrace, now only a footway from the bottom of Villiers-street to the Adelphi. These individual attempts at a river embankment were, from their nature, limited in extent to land in one ownership, but it is interesting to note that so recently as 1830 there were no fewer than ten private embankments of this kind jutting out at all sorts of angles and alignments to the river, and it was not until the Thames Embankment became an accomplished fact in 1870 that the water front of London westward of Blackfriars was made the graceful and beautiful thing it is to-day.

In a day when there was no Royal Commission of Fine Arts, and little public opinion in favour of the proposal, it is remarkable that so great an achievement was carried into effect. The explanation, however, is very simple: a main low-level sewer was a necessity for the health of London, and to excavate for such a sewer along the Strand and Fleet-street and through the City would have dislocated the whole trade and commerce of London for many months. The only way was to build a river embankment to take the all-necessary sewer and to continue it into the heart of the City without undue interference with the existing streets. The new Victoria Embankment and Queen Victoria-street provided the obvious solution, thus providing not only a route for the low-level sewer, but also at the same time a wayleave for the new Underground District Railway. Thus the plan of London grows out of its necessities.

To make the Victoria Embankment, it was necessary to do away with many apparently important structures and undertakings which blocked the way, not the least of these obstructions being the City Gas Works, which stood on the river front a little to the west of Blackfriars Bridge. Eastward of Blackfriars, however, there was, and still is, a continuous stretch of warehouses and wharves through the whole length of the City as far as the Tower, and here a river embankment would appear now to be difficult, if not impossible of attainment.

We all know of Sir Christopher Wren's plan for the rebuilding of the City of London after the Great Fire of 1666, and we can appreciate the strength of the interests which made that plan incapable of fulfilment. Most of us, however, have forgotten that one part of that plan was for a public quay 40 feet in width along the whole river front of the City from Blackfriars to the Tower, and that, although Wren's main design for the replanning of the City was discarded, the Act of Parliament passed in 1667 for rebuilding the City of London provided for the construction of a quay or wharf 40 feet in width from the Tower to the Temple. Under the additional Act for Rebuilding the City of London, passed in 1670, the quay was definitely to be constructed from London Bridge to the Temple, coal dues being prescribed to meet the cost of this and other improvements. So long ago as April, 1914, in a paper read to the R.I.B.A., Mr. W. R. Davidge drew attention to these provisions and to the fact that the new quay is shown on succeeding maps of London as gradually disappearing, until it was finally extinguished by Act of Parliament in 1821, despite the opposition of the City Corporation.

We now have an opportunity of following the process under which a public quay in the heart of London, reserved by Act of Parliament, slowly disappeared over a period of a century and a half. Mr. Sydney Perks, F.S.A., late Architect and Surveyor to the City Corporation, has taken infinite pains to ascertain the true facts of the case, and in a book just published under the name of "The Water Line of the City of London after the Great Fire," he has made the results of his investigations available to the public. Mr. Perks arrives at the conclusion that the new quay, although reserved by Act of Parliament, was never actually built, and he suggests that the well-known map of Ogilby and Morgan, published in 1677, which shows the quay as existing, was merely a map-maker's anticipation. If this really were so, how are we to explain the excellent view of the quay given in Malton's View (Vol. 2) of 1799, which we illustrate on page 1001?

Mr. Perks is, however, on stronger ground when he points out that, under the Second Act, the ground, 40 feet wide, for the proposed wharf still remained the property of the owners, who were prohibited from building on it and required to mark the boundaries by "denter stones." The new line was apparently set out, and in 1671 King Charles II granted to the City Corporation by letters patent any necessary "ground or soyle" to be taken out of the river, a length of about 90 feet between Paul's Wharf and Baynards Castle being at the same time granted to St. Paul's Cathedral, probably as a wharf for use during the rebuilding of the Cathedral.

Claims for compensation were apparently received by the Corporation during the years 1671 to 1678, but although compensation was paid to the frontagers to the Fleet River (now New Bridge-street), Mr. Perks can find no record of payments to owners fronting the Thames. In 1678, the City Surveyors reported that a total length of 1,411 feet had been "laid open for the making of a wharfe or key on the North side of the River of Thames," and the succeeding years seem to show that owners were applying for compensation, which they did not apparently get. The coal dues, however, were already overcharged with the many demands on them, and the King's revenues were no doubt similarly in a bad way. Encroachments were from time to time allowed on the 40 ft. space reserved for the new quay, one of the earliest being the Fishmongers' Hall, which was allowed to be only about 20 feet from the water, and in the ensuing century and a half there was a continuous series of encroachments, which finally resulted in the reservation being entirely lost. The melancholy history which Mr. Perks's investigations reveal in his very interesting book is one which should be taken to heart. In the replanning of built-up areas it is not sufficient merely to have a reservation on the map, but to see that the desired improvement is carried into effect.

NOTES

Beresford Pite and Halsey Ricardo.

PAPERS on the work of recently living architects are comparatively rare, but they are invariably welcome, and particularly so when they happen to be concerned with two such distinctive personalities as Beresford Pite and Halsey Ricardo —the dual subject of the paper read by Professor Goodhart-Rendel at Monday evening's meeting of the R.I.B.A. By careful compression and elimination and the use of much literary skill, the lecturer succeeded in producing an effect of completeness in his account of the work of the two men, but we cannot help feeling some slight regret that it should have been necessary to compress two such distinguished architects as Pite and Ricardo into one paper. Each is fully deserving of extended treatment, especially the late Professor Pite who, despite his comparatively limited opportunities, was perhaps the most brilliantly creative architect of our time. Notwithstanding the limitations of time and space, Professor Goodhart-Rendel's paper was a most stimulating performance—as remarkable for its acute generalities as for its analytical content. We hope that he may have an early opportunity of expanding considerably his study of the work of these two remarkable architects.

The R.I.B.A. Medal and Diploma.

A PLEASING feature of the meeting was the presentation to Messrs. Sir John Burnet, Tait and Lorne of the R.I.B.A. Medal and Diploma for 1934, awarded for the firm's Royal Masonic Hospital at Ravenscourt Park, W., of which we give an illustration. The building is an excellent example of modern design—efficient in planning and admirable in elevational treatment. We congratulate all concerned upon this award, which, we believe, has given general satisfaction.

Wells Cathedral.

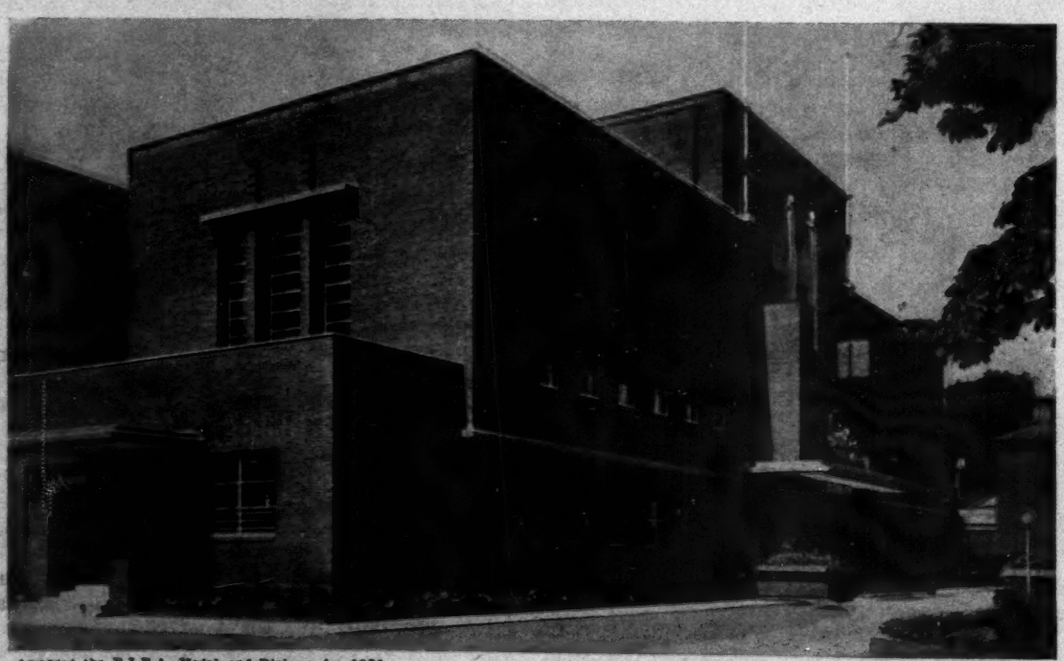
SIR CHARLES NICHOLSON, the Consulting Architect for Wells Cathedral, has recently re-examined, with Sir Charles Peers, the east end of the Choir and of the Lady Chapel of the Cathedral, which were built early in the fourteenth century and are of remarkable delicacy. The opinion of these two experts is that while there is no more immediate danger than there has been at any time during the past six centuries, the margin of stability is dangerously small. Movement may begin at any moment and it would then be almost impossible to avert disaster. As a precautionary measure it is proposed to place a reinforced concrete girder under the east window. The total weight of the window is estimated to be about forty tons, and the girder will therefore relieve two of the piers, which give most cause for alarm, of about twenty tons of weight each. Sir Charles Peers recently said he thought the whole structure of the east end was the boldest and most original piece of Gothic building to be found anywhere, surpassing even the world-famous choir of Beauvais. Beauvais fell down twice. Wells still stands.

A.A. School Appointments.

PROFESSOR H. S. GOODHART-RENDEL, F.R.I.B.A., has accepted the invitation of the Council of the Architectural Association to become Director of the School of Architecture. Mr. E. A. A. Rowse, A.R.I.B.A., A.M.T.P.I., has accepted the post of Principal of the School, and will also continue in the position as Head of the School of Planning and Research for National Development. These appointments will date as from January 1 next. We heartily congratulate the Council upon these appointments — which have resulted from Mr. Howard Robertson's retirement from the Principalship owing to the claims of his practice. The inspiration given by Mr. Robertson — a distinguished architect and a well-travelled man of wide artistic sympathies—over the past sixteen years has been invaluable, and it was, no doubt, felt that the choice of a successor would not be easy. In Mr. Goodhart-Rendel, Slade Professor at Oxford University, the A.A. Council have made, we feel, a wise choice.

The Franco-British House, Cite Universitaire, Paris.

THE Franco-British House at the Cité Universitaire in Paris is now completed. It has been built by the National Foundation of the Cité Universitaire and has been designed by two French architects, Monsieur Pierre Martin and Monsieur Maurice Vieu. The building is of red brick, and the style of architecture was defined by a British visitor as "English Collegiate with a French accent." Architecturally, a correspondent informs us, it is very disappointing as compared with the original designs prepared for the British House by Mr. Edward Warren. "If it had been possible for these to have been completed, the Cité would have been enriched by a building equal to the best modern work in Oxford and Cambridge. The internal equipment is well thought out, as those responsible



Awarded the R.I.B.A. Medal and Diploma for 1934.

THE ROYAL MASONIC HOSPITAL, RAVENSCOURT PARK, W.: Administration Block.

SIR JOHN BURNET, TAIT AND LORNE, Architects.

have had considerable experience in connection with the other hostels at the Cité Universitaire. The architects were, however, somewhat hampered by the fact that originally they had to design a building to accommodate men only, and when they were halfway through, it was decided that women students also should occupy the same building. The educational result of the experiment of lodging under the same roof French men and women and British men and women will be watched with keen interest by educationists."

From "Malton's Views," Vol. 2.

RIVER VIEW OF LONDON, SHOWING QUAYS, 1799.

(See Leading Article, page 999.)

Housing Amenities.

On their Howwood site, extending to 80½ acres, the local authority of Johnstone Burgh propose to build some 1,000 houses, with the necessary amenities such as churches, schools, shops and open spaces. Recognising that development on this scale affords a splendid opportunity in planning the lay-out of the site, the local authority have engaged the service, as consultant architect, of Mr. Tait, who is the architect for the new Calton buildings in Edinburgh. This step may be regarded as one of the first-fruits of the campaign by the Department of Health for Scotland for improved architectural treatment of housing schemes. The Secretary of State, in his Foreword to the Department's most recent publication, "Working-class Housing on the Continent," while agreeing that so far as soundness of structure and internal planning and equipment are concerned Scottish post-war State-assisted housing schemes are open to little criticism, has expressed his doubts whether the æsthetic side has been given the consideration to which its importance entitles it. Johnstone Town Council are evidently alive to the advantages underlying good planning that affords not only a pleasing appearance, but also adequate communal facilities and amenities.

Warwickshire Town and Country Planning.

The Warwickshire Joint Planning Committees, which were constituted in 1934 for the purpose of preparing planning schemes for the four areas concerned, have just published a booklet on Town and Country Planning for the guidance of developers, with the object of bringing to the notice of all concerned with the preparation of planning schemes the work which is being undertaken to further the interests of good planning in the county of Warwick. When the schemes have been brought into operation they will be administered by the several boroughs and district councils in the county. The booklet is issued by the four Joint Planning Committees, and copies may be obtained from Mr. L. Edgar Stephens, M.A., Honorary Secretary to the Committees, at the Shire Hall, Warwick, at a price of 6d. per copy post free. It includes a coloured map showing the areas of the County Joint Planning Committees, as well as illustrations "to emphasise the need for careful planning and a watchful eye over the erection of advertisement hoardings and petrol filling stations." In addition there are short but helpful chapters on the Necessity for Planning; the Town and County Planning Act, 1932, and the scope of Planning Schemes; Interim Development; the Preservation of the Countryside and the siting, design, materials and colour of new erections, etc. As Mr. G. L. Pepler, Chief Planning Inspector, remarks in a brief Foreword, there is plenty of scope for development in the county, but that there is a need also for preservation. The publication of this little work, therefore, is likely to serve a useful purpose.

A Garden City for African Natives.

Southern Rhodesia, having developed a curious form of housing problem, has now set about its solution. Apart from the "raw" natives who live in their kraals and those natives who have accommodation provided for them by their employers, there is another and a growing stratum of society, the civilised native working at a trade or in skilled, or semi-skilled, employment, or as a labourer in a European town. As they may not live in the towns proper they reside in nondescript "locations." To meet the reasonable demands of these people the Government of Southern Rhodesia is planning a series of native village settlements in which a new standard of native living will be set. The first of these villages—we should probably call them "garden cities" over here—is already in course of construction outside Bulawayo. The design of the cottages and the general layout of the village will give satisfaction to those who are anxious to see a betterment in the living conditions of the natives.

The Design of the Cottages.

The plan provides for a number of cottages arranged in the form of an arch around a large central space which will serve as the village green. To avoid any barrack-like appearance, the rows of cottages are not being built in straight lines. Some are right on the road, while others are set well back. An avenue of trees is being planted along the main approach. Each cottage will stand in a plot 62 ft. by 67 ft., and each tenant will have a garden plot by the river where a weir is being built. The Rhodesian native is a keen agriculturist and loves his bit of vegetable garden. The design of the cottages is simple and consists of a central living-room, leading to a room 12 ft. by 10 ft. 4 in. on each side, under a low-pitched cement slab roof. The only wood in the whole building is in the doors. The window frames are of steel, and a novel feature is the concrete rafters.

Statistics and Standards.

How is the manufacturer who takes tests at regular intervals, to judge from these tests whether the technical processes of manufacture are remaining under proper control? How is the consumer to determine that the material he buys complies with the tests laid down in clauses of a specification? These questions are dealt with in a publication (No. 600—1935) issued by the British Standards Institution, written by Professor E. S. Pearson, of the Department of Applied Statistics, University College, London, in co-operation with a committee of men engaged in practical industry. Illustrations have been taken from the manufacture of electric lamps, of building materials, and from the testing of coal and engineering products, etc.

GENERAL NEWS

A.A. Children's Christmas Party.

The A.A. Members' Children's Christmas Party will be held on Friday, December 20, from 3.30 to 6.30. Tickets may be obtained on application to the Secretary, price 2s. 6d.

Aerodromes' Advisory Board.

The President of the R.I.B.A. has received a letter from the chairman of the Aerodromes' Advisory Board on the winding-up of that body, thanking all the institutions, particularly the Aerodromes Committee of the R.I.B.A. for their support.

The Trocadero, Paris.

The Trocadero building, which was erected in 1878 for the exhibition of that year, is being demolished in preparation for the exhibition of 1937. It had been arranged to blow up the central portion on Tuesday last, but it is now reported that the arch has fallen as a result of the gales over last week-end.

R.I.B.A. London Architecture Medal.

The attention of members of the R.I.B.A. is drawn to the award of a medal for a building built within a radius of eight miles from Charing Cross during the three years ending December 31, 1935. Those who wish to nominate a building whose claims they consider should receive the attention of the jury should complete a form of nomination and return it to the Secretary, R.I.B.A., not later than February 29, 1936.

The Re-Planning of Bath.

In a letter to the R.I.B.A. *Journal* on the subject of the re-planning of Bath, Professor Patrick Abercrombie writes as follows :—

"Some months ago I was called in as outside consultant for a planning scheme which is being prepared by a joint committee of Bath, the Bath-Avon Rural District and the Somerset County Council. Last month there was published a series of proposals for re-planning the centre of Bath which the Corporation are embodying in a Bill to be laid before Parliament. I ask your permission to state that I have had nothing whatever to do with the proposals contained in the Bill for which Parliamentary sanction is to be sought apart from the planning scheme (which, of course, will be also submitted to Parliament in due course).

"The proposals were shown to the Town Planning Committee and to myself for the first time on November 8. I understand that they have been prepared by the city engineer in consultation with Mr. Taylor, the architect on the advisory committee set up under the Bath Act, 1925."

COMPETITION NEWS

Secondary School for Boys, Luton.

The Bedfordshire C.C. Education Authority have now decided to invite plans in open competition for a secondary school for boys at Luton. The President of the Royal Institute of British Architects has been asked to nominate an assessor. Further particulars will be issued in due course.

It had originally been arranged to restrict this scheme to a limited competition.

Boston High School for Girls.

The following six architects have been invited to submit designs in respect of the new buildings for this school, and they have all accepted the invitation, viz. :—

(1) Mr. H. A. Mobbs, F.R.I.B.A., Boston.
(2) Mr. T. F. Trower, L.R.I.B.A., Spalding.
(3) Mr. W. E. N. Webster, F.R.I.B.A., Spalding.
(4) Mr. S. Burgoine, F.R.I.B.A., 4A, Bloomsbury-square, W.C.1.
(5) Mr. Alan E. Munby, F.R.I.B.A., 9, Old-square, Lincoln's Inn, W.C.2.
(6) Mr. M. J. Slater, F.R.I.B.A., 8, Lower Brook-street, Ipswich.

The last date for the submission of completed designs is February 22, 1936. The buildings are estimated to cost £40,000, and Sir Felix Clay, F.R.I.B.A., is assessor.

Civic Buildings, Southport.

Southport T.C. invite architects of British nationality to submit designs for civic buildings on the Woodlands site. Mr. E. Vincent Harris, O.B.E., 29, St James's-square, Pall Mall, S.W.1, is assessor. Conditions are obtainable from Mr. R. Edgar Perrins, Town Clerk, Town Hall, on deposit £1 1s.

The competition, for which premiums of £300, £200 and £100 are offered, is for proposed new police headquarters, fire station, courts, etc. The site (see plan reproduced) is at the junction of Albert-road and Manchester-road. Questions must be addressed to the Town Clerk by January 1, and the closing date is February 29. Following are points from the Conditions :—A "Place" has been suggested at the termination of Lord-street with Albert-road, which they are at liberty to vary should they desire to do so in the interests of their scheme of buildings. The site plan indicates the position of the existing public conveniences on the Manchester-road frontage. Competitors may remove these if they desire, but in that event a revised position for them must be indicated (on the site plan only).

The elevations should be treated in a restrained and dignified manner both internally and externally. Stress is laid on straightforward and economical planning with rooms and corridors adequately lighted and ventilated, and with due regard to escape in case of fire or panic. The buildings generally must be constructed of fire-resisting materials, and great care should be exercised to ensure economy of upkeep. Particular attention must be given to ensuring good acoustic properties in the several apartments, particularly in the larger and more important rooms, such as the committee rooms and courts; large sound absorbing areas are desirable, and the height and shape of rooms, etc., should be carefully studied. Domes should be avoided.

The Corporation have in mind the expenditure of a sum not exceeding £80,000.

Municipal Buildings, York.

Mr. H. V. Ashley, F.R.I.B.A., assessor in the competition for new municipal offices, clinics, etc., proposed on the Castle site, has made the following awards :—

1st (£250) : Mr. Donald H. McMorran, A.R.I.B.A., 14, North Audley-street, W.1.
2nd (£150) : Messrs. Elcock and Sutcliffe, FF.R.I.B.A., 60, Strand, W.C.2.
3rd (£100) : Mr. Frank Lishman, F.R.I.B.A., 9, King's Bench-walk, E.C.4.
4th (£50) : Messrs. Bradshaw Gass and Hope, 19, Silverwell-street, Bolton.

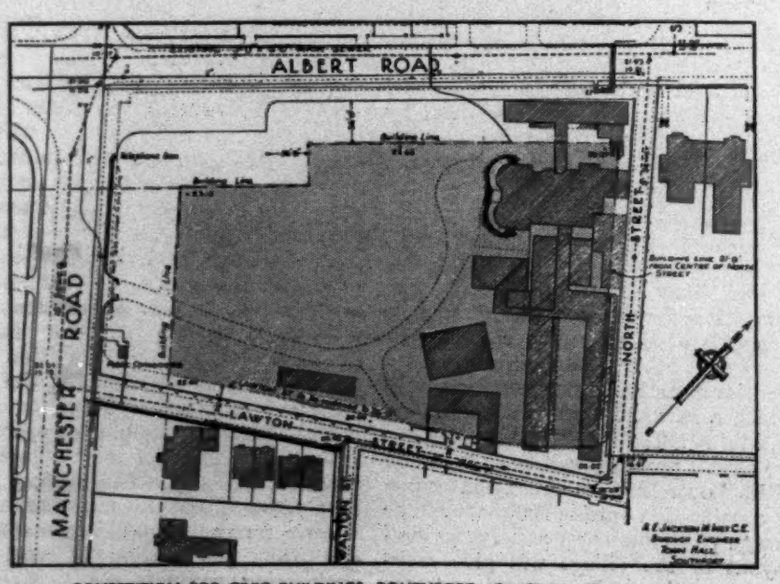
There were 46 designs submitted. The winning and second premiated designs are illustrated in this issue, and the winner's report is on page 1022.

Lumps Fort Lay-out, Portsmouth.

Thirty-three designs have been received in connection with the competition for the lay-out of Lumps Fort. They are being judged by Mr. E. Prentice Mawson, F.R.I.B.A.

New School, Chadderton, Lancs.

Mr. Stephen Wilkinson, A.F.C., F.R.I.B.A., assessor in the limited competition for a new school at Chadderton, has made his award to Messrs. Taylor and Simister, FF.R.I.B.A., 29, Queen-street, Oldham.



COMPETITION FOR CIVIC BUILDINGS, SOUTHPORT : Site Plan. (See this page.)

CORRESPONDENCE

Private and Salaried Practice.

SIR,—I was interested to read Mr. Nash's letter in your issue of the 29th ult., and agree with him that it is certainly time the policy of the R.I.B.A. was framed to reflect the opinions and protect the interests of those who form the majority of its membership. That such is not the case at present is hardly surprising when it is realised that, with very few exceptions, the Council of the Institute is composed entirely of private practitioners. Moreover, there are no fewer than fourteen Allied Societies in England of which full membership is restricted to architects in private practice, though a few of these Societies also admit salaried architects, provided they are principals.

Whilst such a state of affairs is regrettable, to put it mildly, the responsibility rests upon salaried members themselves. The Council of the Institute is elected by the members, most of whom are salaried architects, and they have only to elect similar men as representatives to secure a majority on the Council. If the salaried members will not take the trouble to look after their own interests they have only themselves to blame if they are ignored by the more astute members of the profession.

Admittedly, it will take time to secure a majority on the Council, but with a little enthusiasm and organisation I believe the Institute can be made truly representative of those who form the backbone of its membership, and, incidentally, provide approximately two-thirds of the financial contributions, which the Council help to disburse by carrying on propaganda derogatory to the majority of their fellow-members, whose interests they should be only too anxious to protect.

FRANK BENT
(Associate, R.I.B.A.).

Leicester.

(*Continued on page* 1034.)

TOWN PLANNING AND CIVIC DESIGN

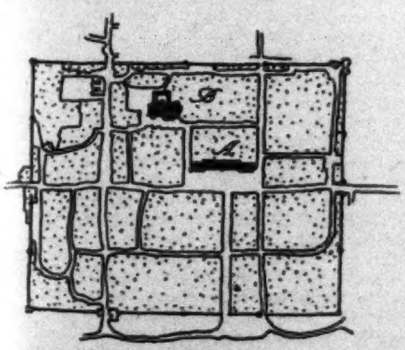
CONTINUING the course of lectures on Town Planning and Civic Design at the Northern Polytechnic, Mr. James Burford, A.R.I.B.A., A.M.T.P.I., dealt with the development of Town Planning in the Middle Ages.

The social and political conditions of the early Middle Ages, the unsettled state of social life, the small size of states and the limited control over material resources, were not, he said, favourable to the foundation of large towns. Again, the normal outlook of Western man in the early mediæval period was essentially rural, in contra-distinction to the classical outlook which inclined naturally to urban development. The unit of mediæval social organisation was the court and manor of the feudal landlord and the homestead and farm of the feudal tenant. Hence the foundation and growth of mediæval towns was due, not to a sentimental preference for the urban life, but to the necessity, in the first instance, for security and protection.

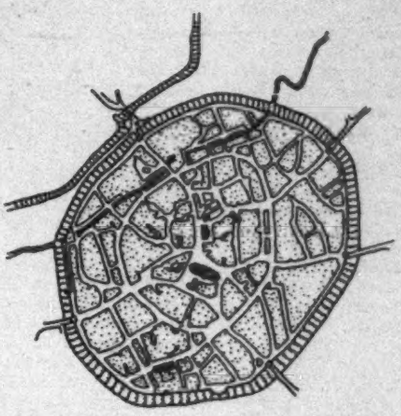
The close of the Dark Ages was marked by the rise of rulers of large dominions. The change in the political and military organisation gave, in two respects, an impetus to the development of towns. Firstly, the successful ruler, duke, king, or emperor, found in the urban community a ready and effective means both of stabilising his conquest and of promoting his own views of civilisation. Secondly, the greater security and the improved material prosperity consequent on a more settled political situation enlarged the opportunities for trade and industry. Yet it must be remembered that throughout the Middle Ages, with but a small minority of exceptions, political consideration took precedence of economic advantage in the foundation of new towns: military necessity was generally of paramount importance. Subjects were encouraged, by grants and liberties, to live in newly founded fortress towns for the ultimate purpose of undertaking their defence. Thus began the towns or "boroughs" which the successors of Alfred the Great founded along the boundary between the West Saxon inheritance and the Danelaw. To such ends the Carolingian conquerors planted their fortress towns in Saxony, and, with the same purpose, the Saxon emperors, at a later date, founded their towns beyond the Elbe. The Eastern expansion of the Teutonic races carried Western ideas of town planting and town planning into Prussia, Silesia, Poland, and Lithuania. The plans of such towns as Breslau and Cracow showed unmistakable signs of their Western origin.

In England, after the Norman conquest, new towns were founded, for political reasons, by the French barons. Some of the oldest of the Welsh towns owed their origin to such foundation. But there was a distinction between the deliberate foundation and the deliberate planning of a town, and these early Norman-English or Norman-Welsh towns showed no evidence of a deliberate plan.

The most important group of deliberately planned and planted towns of the Middle Ages resulted from the settlement of the depopulated and devastated lands of Southern France after the wars of the crusade against the Albigensians. St. Louis, King of France, and his brother Alfonse, Count of Poitiers, founded many towns to consolidate their conquests. Such towns were known as "bastides" or "villeneuves"; "bastide"—in its northern form "bastille"—indicated a fortress; "villeneuve," a "new town," the former the most common, founded primarily for military reasons, the latter principally with political and economic motives. Some were built as barriers on frontiers, some near an old town likely to cause trouble, all were refuges in invasion or civil war. Yet, in spite of the military character of the "bastide" towns, the economic motive of their foundation was important from the first. The creation of new centres of commerce stabilised the countryside whilst the diversion of trade from an older and rival town was a ready means of reducing its importance.



AOSTA IN THE MIDDLE AGES. A MEDIAEVAL TOWN —PLAN ON A ROMAN FOUNDATION, SHOWING DEVIATION FROM CLASSIC FORMALITY AND THE IMPOSITION OF TWO CENTRES.
"A," TOWN HALL (STATE). "B," CATHEDRAL CHURCH). ON A SINGLE-CENTRE ROMAN PLAN.



NORDLINGEN, BAVARIA. THE ANNULAR MEDIAEVAL TOWN OF GROWTH. A DUOCENTRIC UNITY.
"A," THE RATHAUS (STATE).
"B" THE KIRCHE (CHURCH).

The work of St. Louis and his brother as founders and planners of towns was continued by their successors, notably amongst them Edward I of England, at one time Duke of Gascony, and, in 1270, Count of Poitiers, the most active and the most successful founder of "bastides" of his age.

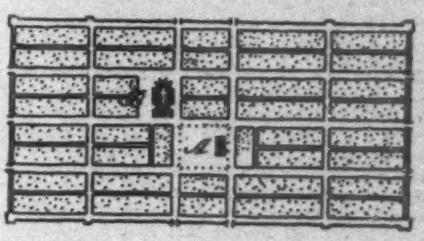
The methods employed in the foundation of "bastide" towns, methods well known from contemporary records, showed little variation. The first step was the procurement of the site, by conquest or by bargain with the local lord or prelate. The second step was the choice of the name—Sauveterre, Monsegur, La Garde—names generally descriptive and picturesque. Sometimes the name commemorated the founder or the day of the foundation.

Next a pale (post) was set up to mark the central point, and a wall and a ditch were constructed round the area to be enclosed. The normal form of the "bastide" town was rectangular, as being the shape easiest to plan, but the surrounding walls of "bastides" took many different forms to use to the best advantage for defence the varying levels of the ground. But whatever the contour of the circumscribing walls, the streets were laid out on regular rectangular lines dividing the area, chess-board fashion, into square or oblong plots. One such plot was reserved for the market-place and a court-house, another for the principal church. Both court-house and church were built, almost without exception, on one side of their respective plots.

There was this important difference between the "chess-board" town planning of the Middle Ages and the "chess-board" planning of the classical period, that whilst the classical town had but one centre, the Agora, civil centre, the mediæval town had two, market-place and church-place, Church and State. There was this further difference between them, similar as they may superficially appear to be, that whilst classical man was by inclination a town dweller, early mediæval man, forced by circumstance to adopt the civic form, remained at heart the agriculturist. Large gardens behind the houses, since become too often the site of crowded courts and slums, were included within the town walls, and grants of land, immediately beyond the gates, were amongst the inducements offered to secure the settlement of the town.

Edward I's later and more mature work in England produced the notable group of "bastide" towns in North Wales, founded after the fall of Llewellyn, the last native Prince of Wales, and such towns as Kingston-on-Hull and the once prosperous but ill-fated Winchelsea. New Salisbury, one of the few unfortified towns of mediæval Europe, founded thirty years before its counterpart, the New Town of Carcassone, was created by Richard le Poer, Bishop of Old Sarum.

Mediæval towns might be divided into two types, the town deliberately founded and planned, and the town which grew by a slow process of accretion. Each showed a reflex of the mediæval mind, an expression of an outlook peculiar to the time and characteristic of Western European thought. Such an expression was more clearly shown, as might be expected, in the towns which grew through the slow process of many years. The annular town, growing ring on ring, forming a unity around its two centres, the civic centre and the church centre, was a clear though undoubtedly an unconscious expression, in an urban medium, of that duocentric mediæval conception of life, of that constant interplay and equilibrium of activities and forces, expressed otherwise in such a conception as God and Devil, and ultimately, with the establishment of a mediæval urban life, in the distinction between Town and Country. The idea of mystery, which lay at the root of mediæval religion, was inherent in the mediæval town,



MONTPAZIER. A TYPICAL MEDIAEVAL "BASTIDE" TOWN. A "PLANTED" TOWN.
"A," MARKET PLACE AND TOWN HALL.
"B," CHURCH PLACE AND CHURCH.

expressed in the partially revealed view, the partially concealed building, the continual suggestion of more beyond, of something that was not yet known.

The process of growth alone was inadequate to explain the recognisable characteristic form of the mediæval town. The same process in other times and with other peoples had produced far different results. A town plan was the inevitable reflex of its creators.

The Date of Wren's Birth.

A discussion has been taking place in *The Times* in regard to the date of Wren's birth. Mr. Thomas H. L. Hony now writes: There were two Christopher Wrens. The first was baptised in 1630 and died in infancy. The second—the great Sir Christopher Wren—was baptised in 1631. These entries are clearly shown in the East Knoyle baptismal register [a photographic copy of which was reproduced]. The entries were made by Dr. Wren himself, and each child's baptism is recorded under its proper year. The insertions "first" and "2d" were made by Dr. Wren later in order to distinguish between the two Christophers.

Water Pollution.

The report of the Water Pollution Research Board for the year ended June 30, 1935, has been issued, and may be obtained from H.M. Stationery Office, price 1s. net.

BERESFORD PITE AND HALSEY RICARDO.

A PAPER on "The Work of Beresford Pite and Halsey Ricardo" was read at a meeting of the R.I.B.A. on Monday evening by Mr. H. S. Goodhart-Rendel, F.R.I.B.A., Slade Professor of Fine Art in the University of Oxford. The chair was occupied by the President, Mr. Percy Thomas.

The two architects they were commemorating that night, said the lecturer, were essentially Victorian, but he was going to claim for them and their works something a great deal more solid than mere charm. He was going to claim for them merits that were independent of period, and to point out that in some matters of their art they knew more than most architects appeared to know now. There were other matters certainly upon which we now held views that might be juster than theirs, and in what these men did he would have to point out what he believed to be mistakes. Or perhaps not so much mistakes as defects, not so much things that had been done wrong as things that had not been done.

When such a man as Halsey Ricardo or Beresford Pite drew the contour of anything—a tower—a piece of furniture—a moulding—he drew it as carefully as a portraitist would draw a profile, knowing that by some small and perhaps elusive peculiarity in his line, the whole character of his work must be decided. Not many architectural draughtsmen did thus to-day, nor need they in the sort of impersonal utilitarian designs that were appropriate to many modern occasions. Probably not many architectural designers wanted to do thus to-day; it was wise not to want to do something you suspected of being beyond your powers.

The output of neither of these artists was large; that of Beresford Pite was the larger of the two. He (the speaker) would think that the list of Halsey Ricardo's executed designs was shorter even than that of Philip Webb, whose great reputation was built upon foundations so few, but so firm. The conduct of his practice was remarkably unlike what was usual to-day. His office was in his house, nearly every drawing that came from it was made by him himself, and his correspondence was all in his own beautiful handwriting. His working drawings usually contained an extraordinary amount of relevant detail clearly and conveniently packed on to each sheet, his letters were illustrated by sketch designs drawn in the midst of the writing. Anyone employing him to build a house must have felt that he was sharing in a delightful adventure with a delightful correspondent.

Having referred to "Foxoak," a house at Burhill, Surrey, one of Ricardo's earlier works, the lecturer said that, in considering his more mature achievements, none could compare in importance with his work as prophet and exponent of the cause of outdoor colour. Particularly did he preach and long for colour in city streets. Until a few years ago there stood on the south side of Great George-street a delightful street-front. This was Halsey Ricardo's refacing of a dwelling-house that he converted into an office building in the year 1884. The wall surface was of brown salt-glazed brickwork of the lovely colour that such bricks used to have before brickmakers decided to spoil them by glazing over a white slip. The column by the entrance was of bright red rubbers, the ironwork gilt, and all the painted work white. Here there certainly were many things "upon which soot and dirt might lodge," but when this front was built Westminster perhaps had not "the air of a manufacturing city." Every time he (the speaker) went down Great George-street he felt the loss of this front as a personal grief, and he had heard many others who had much less tenderness for its style than he had speak of its destruction with deep regret.

At the south end of Melbury-road, in Kensington, there was a pair of houses for the walls of which Halsey Ricardo also chose salt-glazed brick; they were very agreeable houses indeed, and looked smart and well-groomed amidst their grimy red-brick contemporaries. Inside them (more in one than in the other) there were many beautiful tiles variously used. For Halsey Ricardo was the lifelong friend of that most famous of English potters, William de Morgan, who was for some time his collaborator, and also made designs for his ware.

Polychromatic Architecture.

In a larger and later designed house in Kensington, that built for Sir Ernest Debenham in Addison-road, the bichrome of Great George-street and Melbury-road had given place to polychrome, strong, rich, and harmonious. He (the speaker) could not himself imagine why more houses had not been built like this one, fully coloured and resistant of decay. So far as glazed faience had been used in our cities, it had not generally been attractive to the eye, because one colour had been oppressively spread over the whole of its surface. Bathroom white, teapot brown, bloody red, had appeared in enormous patches, occasionally with insufficient palliation of a few silly stripes, to the great disfigurement of the streets afflicted with them. The way pointed by Halsey Ricardo had been followed by few—he might almost say by no—others.

Having referred to Ricardo's railway station at Howrah, Calcutta, and to the house he built in Chelsea for his son-in-law, Mr. Maresco Pearce, the lecturer said if there were anything in the theory that by his work you could know the artist, you would now not need any telling that Halsey Ricardo was, as many admiringly remembered, a good, charming, handsome man, of remarkable innate distinction, and with an enthusiastic love of beauty in art and in nature. Next to architecture among the arts he loved music, in which he had skill and taste. Like most architects of his generation and many of ours, he was somewhat arbitrary in his preconceptions of design, and in his method of planning was opportunist rather than systematic. On nothing he did, however, did he fail to impress his endearing personality—his works unfailingly engaged our affection even when they might not completely satisfy our judgment.

Beresford Pite.

That his name should be coupled in that lecture with that of Beresford Pite arose only from the accident that the lecturer had some small but special competence to speak of both men. No comparison was intended between them; indeed in one aspect there was an antithesis. For all his admiration of Butterfield, Halsey Ricardo never in his architecture used shock tactics to further his cause. Beresford Pite, on the other hand, probably assailed the architectural world with a more continuous cannonade of surprises than had any architect before his time, or would any that was likely to come after it.

None who loved him had even yet had time to realise that he was gone; his interest in architecture was so universal; his vitality so unfailing, that it was difficult to remember when things in that room got really interesting that his voice would not again suddenly ring out as it used to in Conduit-street to invigorate their debate and illuminate their thoughts. With some of what he built they might find fault. With all of it they might—must—feel that his opportunities were inadequate. He was an architect of extraordinary capacities fated to spend much of his energy in work too ordinary to employ them, and in consequence he perhaps was occasionally something of a bull in a china shop. There was nothing in their art that he could not do extremely well if he tried, but he generally preferred not to try what was in vogue with the "yes-men" of the moment. Showing a slide of the house, No. 82, Mortimer-street, which Pite built in the early '90's, the lecturer said the caryatides which were the essence of the design resulted from a collaboration between architect and carver, so close that they might almost be regarded as creations of the architect alone. Of what was commonly known as "architectural carving," Beresford Pite's buildings were remarkably free. He rejoiced, however, in making opportunities for the decorative use of the human form. In placing such sculpture he had exceptional skill, of a kind rare in our country, where sculpture on buildings was apt to look as though it had come unexpectedly and had only been allowed to remain because nobody had noticed it.

Beresford Pite did a large amount of work round about Great Titchfield-street on the Howard de Walden estate, much of it of a humble kind, but mostly of considerable merit. Having referred to some of this work in detail, the lecturer came to a consideration of the front of Pagani's Restaurant, which, as a whole, he said, was less satisfactory than the works they had been examining, but must especially interest them that evening by showing Beresford Pite in pursuit of the ideals upheld by Halsey Ricardo. For the bottom story of two plain old houses in Great Titchfield-street, Charles Worley, the architect, had substituted a composition in cream and blue faience that already formed the entrance front of Pagani's Restaurant when Beresford Pite came upon the scene. The task then to be performed was to unite this house with a neighbouring house, and to endow the whole with an architectural unity to which Worley's expensive, but, perhaps, not very agreeable, composition could contribute. A two-storied design in polychrome faience enclosed the old entrance front, and the stories above this were faced with mosaic work designed to surround the existing window openings. Neither the design nor the colour of this mosaic work seemed to him as good as it ought to have been, but the details of the added faience gave him nothing but pleasure. The whole façade was brilliantly decorative, and deserved a wash more often than it seemed to get it.

Beresford Pite's executed designs for churches were not many—he knew of no others beyond those of Uganda Cathedral, of Christ Church, Brixton, and of the English churches at Entebe in Africa and at Safed in Palestine, at Bukharest in Roumania, and one comparatively recent in Nigeria. Beside these he built a chapel at Monkton Combe School and a Wesleyan chapel at Gospel Oak. To Clapham Parish Church he added a new chancel, and was responsible for various decorations and furniture in All Souls' Church, Langham Place.

The chapel at Monkton Combe and the Bukharest church were Gothic in character, and did not, in his opinion, show their architect at his happiest. The Gospel Oak chapel was octagonal, with an octagonal tower; it was a successful enough composition, having very little ornament, and pointed a way that Wesleyan chapel-builders had unluckily not been eager to follow. The church at Safed looked in photographs exactly as if it had come out of the pages of De Vogüe, and testified to Beresford Pite's keen interest in the early Christian architecture of Syria. The church at Entebe and the chancel at Clapham were works of greater—indeed, of very great—intrinsic merit, but neither of them could approach in importance the surprising and in most ways admirable Christ Church in the Brixton-road.

The nature of its architect's religious convictions, the depth of which might there be recorded with reverence, was firmly and uncompromisingly Protestant, and it was not only in his work, but in that of others also, that a tendency could be observed for Protestantism to turn to the forms of the Eastern Church for its architectural expression rather than to those of the Church in the West. In the building at Brixton, the outstanding pulpit, the prominent writing of the Decalogue, the enclosures on three sides of the communion table, and other Protestant characteristics, were transferred from the Hanoverian style, in which they were most familiarly embodied, to a style not far removed from the Byzantine, and transferred with great success. Had Beresford Pite's noble conception for the Church of England Cathedral at Liverpool been chosen for execution, that experiment, one particularly appropriate in that city, would have been tried upon a magnificent scale, in all probability with a magnificent result.

The cathedral that Beresford Pite did build stood in Uganda, and was so appropriately designed that it looked as though it could not be anywhere else. Many remarkable features had one by one to be eliminated from a grandiose first project before what remained was within the bounds of possible realisation. He (the lecturer) imagined that the pointed form of the arches throughout the design was a concession rather to ease in construction than to any desire for Gothicism; the building certainly was Gothic, as buildings were apt to be that were put together without much tackle, but its style was entirely natural and unaffected. Every architecturally minded Londoner knew and respected Pite's block of offices at the south-west corner of Euston-square. It held its head up bravely and wore its scholarship with an easy undidactic grace. When it was first built, more than a quarter of a century ago, nothing at all like it had appeared in London since the days of Cockerell, nothing in which detail of character predominantly Grecian had been handled as live stuff rather than as dead. The building was also interesting, in these days of steel frames, by being of true masonic construction.

Influences.

In the work of Beresford Pite, seen as a whole, three influences could be traced without any difficulty, although in many particular designs their fusion might defy analysis. The first was that of Albrecht Durer, whose draughtsmanship, consciously imitated at the outset, was later to become only the foundation of a technique absolutely peculiar to Beresford Pite himself. The famous design for a club house that won the Soane Medallion in 1882 was the climax of this Durer influence.

The second influence was that of Hellenistic forms such as those that could be found in Syria, in the late days of Rome, and to some degree in Byzantium. The Euston-square building, the Islington Library, and the schools in Foley-street all had that flavour in varying degrees.

The third influence was that of Michelangelo, and he was not sure that that was not the strongest of all. He felt positive that Michelangelo would not have been nearly as rude about the new entrance to the Burlington Arcade as had the more genteel persons who did most of our art criticism today, and he could not have seen many of Beresford Pite's buildings without noticing several doorways and windows completely after his own heart.

Having referred to some of Beresford Pite's imaginative projects and competition designs, the lecturer said, when the fiction was no longer upheld that the design of a building was always made by the architect professionally entrusted with its erection, there would be included in Beresford Pite's *opus* some buildings it might be embarrassing to name now. One of these made a great noise in its day, but need not, he thought, be claimed to enhance his reputation, which was just as secure without it.

Much of Beresford Pite's life was spent in teaching, and his colleagues and pupils must have a great deal to tell of him that the world should hear. In a sense, all his life was spent in teaching, since to be with him even for a few moments was to learn something of what an artist and a lover of humanity should be. Much of that was true of Halsey Ricardo also, and in thinking of them both, we realised the danger we ourselves were in of becoming dehumanised with the inevitable dehumanisation of the building processes we conducted. They did not think highly of the age in which they lived, but they strove to master it. We must see to it that *our* age did not master *us*.

DISCUSSION.

Sir William Rothenstein, proposing a vote of thanks to the lecturer, said they had listened to the praise of two architects by another architect. He knew not whether that was unusual among architects, but it certainly was in his own world. He had never heard a more masterly exposition and it was without a trace of flattery. He was struck by the fact that both architects seemed to have retained the amenities of design together with the austere constructive qualities, and had not mistaken baldness for simplicity, which seemed to be a defect of much modern design.

Mr. Geoffrey Webb, seconding the motion, said he knew Beresford Pite only towards the end of his career, having come across him as a teacher at Cambridge. He (the speaker) had been struck by Pite's extraordinarily catholic taste. He had a real sympathy for every kind of architecture, and was not merely a man who had chosen out of the past just what pleased him. He was a "bonny fighter," and had a force of character and a passion of conviction that must have made him a teacher at a very early stage.

The President then put the vote of thanks to the meeting, which was carried with acclamation, and Mr. Goodhart-Rendel briefly replied.

R.I.B.A. MEDAL AND DIPLOMA.

The President then presented the R.I.B.A. Medal and Diploma for 1934 to Messrs. Sir John Burnet, Tait and Lorne, for their building, the Royal Masonic Hospital, Ravenscourt Park, W. In making the presentation, he said there was no building more worthy of the medal, and no award had given greater satisfaction to the whole profession. Not only was the building suited to its purpose in design and construction, but it was a work of architecture that was an inspiration to the younger members of the profession. It was a building that, by its cleanness and efficiency, would be a joy and comfort to thousands of their fellow-creatures.

Mr. Thomas S. Tait, in acknowledging the award, thanked the Institute on behalf of his firm and staff, and acknowledged the unstinted assistance that the staff had given. He also thanked the contractors and the various sub-contractors who had been connected with the job. At no time in architectural history, he continued, had building been so complex as it was to-day. Architects had to have a knowledge of science and of building materials unknown to the past. Clients were insistent on cheap prices, but good workmanship was the cheapest for the client in the long run by reducing maintenance charges. Build with economy, certainly; but if it was necessary to cut down cost it should be done by organisation and simplification of detail rather than by inferior workmanship. Concluding, the speaker said the greatest pleasure and compensation an architect could have was the approbation of his brother artists.

Mr. Francis Lorne also acknowledged the award, thanking, in all sincerity and gratitude, all who had worked so hard and conscientiously with them. They had, he said, been blessed with good clients, good quantity surveyors, good builders and good associates in their office.

Sir D'Arcy Power, representing the Royal Masonic Hospital, said they had the best hospital in Europe, and felt that the best compliment to the architects was to ask them to go on with their work and build a nursing home.

Mr. George M. Burt, representing the contractors, Messrs. John Mowlem and Co., Ltd., said builders did really enjoy being associated with great jobs such as the Masonic Hospital, and there was real pleasure in carrying them out. He would like to pay a tribute to the craft and skill, and very often the courage, of the men who carried out difficult underpinning and underground work. In the case of the Masonic Hospital, he thought the bricklayers deserved a word of praise for really good craftsmanship. He was very proud to be associated with the building of the hospital.

At the conclusion of the meeting, the President said he had received a note from Sir William Rothenstein offering to present to the Institute a portrait by himself of the late Professor Pite. On behalf of the Institute he gratefully accepted that very generous offer.

Prizes for Public and Secondary Schools.

The Board of Architectural Education announce that the following awards have been made :—

(*a*) Prizes for Essays :

(1) A prize of £3 3s. to Geoffrey Robson, of the Grammar School, Dudley, Worcestershire, for his essay on "The Great Churches of the Cotswolds."

(2) A prize of £2 2s. to R. H. Evans, of Gosport School, Hampshire, for his essay on "High-street, Portsmouth."

The essay on "Woodhall Park, Herefordshire," submitted by Roger Freeman, of Uppingham School, Rutland, was commended.

(*b*) Prizes for Sketches :—

A prize of £5 5s. to Geoffrey Robson, of the Grammar School, Dudley, Worcestershire, for his drawings of Stokesay Castle.

The drawings of St. Michael's Church, Minehead, submitted by Peter Diplock, of the Beckenham and Penge County School for Boys, were highly commended.

The drawings submitted by the following competitors were commended :—

(1) P. H. Barron, of the Brighton, Hove and Sussex Grammar School (drawings of the Church of the Holy Trinity, Poynings).

(2) A. B. R. Dow, of the Brighton, Hove and Sussex Grammar School (drawings of the Church of St. Mary the Virgin, Sompting).

(3) N. C. Dowell, of Rawlins Grammar School, Quorn, near Loughborough (drawings of St. Mary de Castro, Leicester).

(4) G. C. Hodges, of Dulwich College (drawings of the Court Room, Rye).

(5) P. C. Jackson, of the City School, Lincoln (drawings of the Cathedral Church of St. Mary, Lincoln).

THE R.I.B.A. DRAMATIC SOCIETY.

"You English," a comedy in three acts, by Mr. Hope Bagenal, produced by Mr. Halliburton Smith, was presented at the R.I.B.A., Portland-place, on Friday and Saturday last. The single scene of the play was laid in the hall of a small hotel in the Alban Hills overlooking the Campagna, and having a distant view of Rome. The period is just before the Boy Scout organisation in Italy was converted by the Government into the Balila Patrols. The theme of the play is the courtship by a Commandant of the Fascist Militia (played by Mr. Lawrence King) of an Italian girl (played by Miss Joan Richards), and the efforts of an English couple travelling together (played by Mr. John Perrett and Miss Prudence Smith) to find if their temperaments are suited to each other. The play shows how international disputes may possibly arise through some tourists who in their travels fail to accord with the customs or etiquette of the country which they are visiting. In this instance, owing to failure to salute on a Festa Day, the Englishman is involved in a scene in which he is injured, and he threatens to bring the matter before the English Parliament through a Member who is his friend. However, all ends well. The author is to be congratulated on a clever little play, ably interpreted by the whole cast.

COLOUR DECORATION ON WHITE PORTLAND CEMENT SURFACES

By Professor A. P. LAURIE.

The increasing use of white Portland cement in building is directing more and more attention to the possibility of using decoration in colour on external buildings, decoration which is not obtained by painting the cement surface, but is obtained by incorporating the colour as a part of the cement or of the aggregate.

The whole tendency of modern architecture is towards plain flat surfaces with no sculptural ornament, and such surfaces lend themselves to decoration in colour. At present in this country the experiment seems to be confined, except in very rare instances, to using a coloured in place of a white cement over the whole surface, or merely introducing a change of colour as a broad band along the face of the building. Bolder experiments have been tried on the Continent, designs being cut in the wet cement and coloured cement introduced.

It is obviously essential that, whatever the method, the colour must be as permanent as the cement itself, and that within these limitations all colour experiments must be carried out. Keeping these limitations in mind experiments in more than one direction are possible. The first and most obvious is the addition of pigment to the cement itself.

Up to the present, the only pigments which have proved sufficiently permanent are the "earth colours"—umbers, yellow ochres, and red oxide of iron, such as Venetian and Indian red, and oxide of chromium green. The only permanent blues available are cerulean blue and cobalt blue, which involve the use of two expensive metallic oxides, oxide of cobalt, for cerulean and cobalt blue, and oxide of tin for cerulean blue. These pigments are consequently never seen outside the artist's palette.

It is worth noting that the Italian fresco painters of the 15th century are equally limited (by being only able to use the costly ultramarine blue from lapis lazuli, which was painted, mixed with a medium, over indigo), and that no blue appears in many Italian frescoes. While, therefore, chemists are searching for a sufficiently permanent blue, there are great possibilities of decorative design within the range of colours offered.

The Cement Marketing Company has also been able to obtain a black which is really black, and which makes possible the revival of the old Italian method of decoration in black on a white surface. As far as I am aware, no attempts have been made in this direction by architects, a direction full of possibilities.

Another direction in which little has been done is the use of coloured glass coarsely crushed and embedded in the cement. The experiment made in the Carreras Tobacco Factory with mosaic glass obtained from Venice has proved the permanency of the method, but the quality of surface of the glass which will give a pleasing result requires experiment. Transparent glass and even opaque glass with a smooth surface does not produce in my opinion a satisfactory effect. It seems possible in this direction to produce results resembling the Byzantine and Italian mosaics on a huge scale suitable to the size of modern buildings. I have had considerable correspondence with English glass-making firms, but do not find that they are much interested, and many of the secrets of mosaic glass manufacture seemed to be only known in Venice.

Another direction in which the Cement Marketing Company have made some progress is the production of a coarsely crushed coloured aggregate, which has a dead opaque surface, without shine, more like a tile coloured throughout than a glass, having the qualities of surface of earthenware.

The whole subject requires, if it is to advance, a research combining the chemist, the craftsman and the architect. The methods of manufacture, and the decorative results produced, require to go along side by side with experiments on new coloured material. Possibly among the young architects and decorative designers some might be found willing to experiment if facilities are offered to them.

There can be no question of the interest taken in the possibility of coloured decoration in white cement by the Cement Marketing Company, but progress must be slow if there is no combination of effort. To take only one problem—the decoration with black in white, the best methods for cutting out shallow designs to be filled with black cement and the results produced require a testing in practice on a big scale. Co-operation between the architect and the technical expert is essential for progress.

CRAFTSMANSHIP

An address on craftsmanship was given by Mr. John L. Denman, F.R.I.B.A., recently at a meeting of the East Sussex Rural Community Council, held at Danny, Hurstpierpoint. Danny, said the lecturer, like so many of the great homes of England, was built at a time in our history when men's thoughts were being challenged by external influences of a new world of thought, which, coming from Italy, were so greatly to affect the vernacular Gothic architecture of Northern Europe, so instinct with the mystery and romantic spirit of the Middle Ages. Previously, for a period of about four centuries, the progress of mediæval architecture had been regular and continuous—indeed, it was possible "to determine the date of a building by examining the mouldings which embellish it."

Each change in architectural form during the Middle Ages coincided with periods of transition from one form of construction to another; and all such periods of transition were of special interest because we could trace in them the basic reasons for the changes, and also see the vitality and force of idea which accompanied those changes. Now, whilst Danny, which was erected towards the end of the sixteenth century, represented a period of transition, it was essentially different from the periods of transition in mediæval architecture, because the changes which Danny exhibited were dictated rather by æsthetic than constructional reasons.

Certain students of architecture hesitated to recognise the merits of early Renaissance architecture in England, either because it lacked a sense of purity and refined scholarship such as we found in Italy, the source of its inspiration, or because it showed the impress of imported ideas not indigenous to English soil and lacking any essential constructional impulse which was so strongly evident throughout the Middle Ages—in other words, that it resulted from superficial foreign influences without strong organic reasons. But, as Mr. Gotch reminded us, the buildings of the period, in spite of their inconsistencies, were consummate works of art, and had a fertility of fancy, a wealth of ornament and a simplicity of treatment which breathed the restful yet vigorous spirit of the age—that they were characterised by a self-contained homeliness, redolent of the life and customs of the Englishman of the day, and impossible to be either originated or imitated by his Continental contemporaries—and that they were, indeed, outspokenly national in all their main characteristics.

The Fifteenth-century House.

The main feature of the domestic house of the fifteenth century was strikingly reproduced at Danny—although it was largely remodelled in the eighteenth century—with the arrangement of its hall and its large windows, and with its screen and entrance at one end and the withdrawing rooms at the other; whilst in such features as the entrance porch we saw the challenge of those new ideas which were then being so freely imported. One could well imagine the prejudice that these new forms must have created in some minds, and, on the other hand, the stimulus they must have given to others in those days just as at the present time we had the varying reactions to so-called modern forms of construction.

As soon as the Renaissance had completely established itself we found a further effort was made at Danny to keep abreast of the times, because about the middle of the eighteenth century the south wing was reconstructed to accord with the developments which had by that time become general with the introduction of the sash window and also the "orders" in their purer form. The magnificent spiral staircase in that wing was a masterly example of the joiner's craft.

Egoism with our mediæval craftsmen did not appear to have been a great failing, at any rate so far as the building crafts were concerned. This was probably due to the creation of the guilds and the consequent co-operative tendencies. Wholly unlike our own age in its social discomfort, it was nevertheless like ours—businesslike, methodical and formal. Their contracts were based on the oath, which, being of Christian character, created a difficulty where Jews were concerned—doubtless keeping them as a sect apart and tending to force them outside the co-operative guilds into the more individualistic life of finance. Master workers gradually began to form a separate class from the journeymen apprentices, or servers, as they were called. The young man who would take up a trade so dissimilar from those of to-day must go through definite stages of service and submit to rigorous ordinances of service.

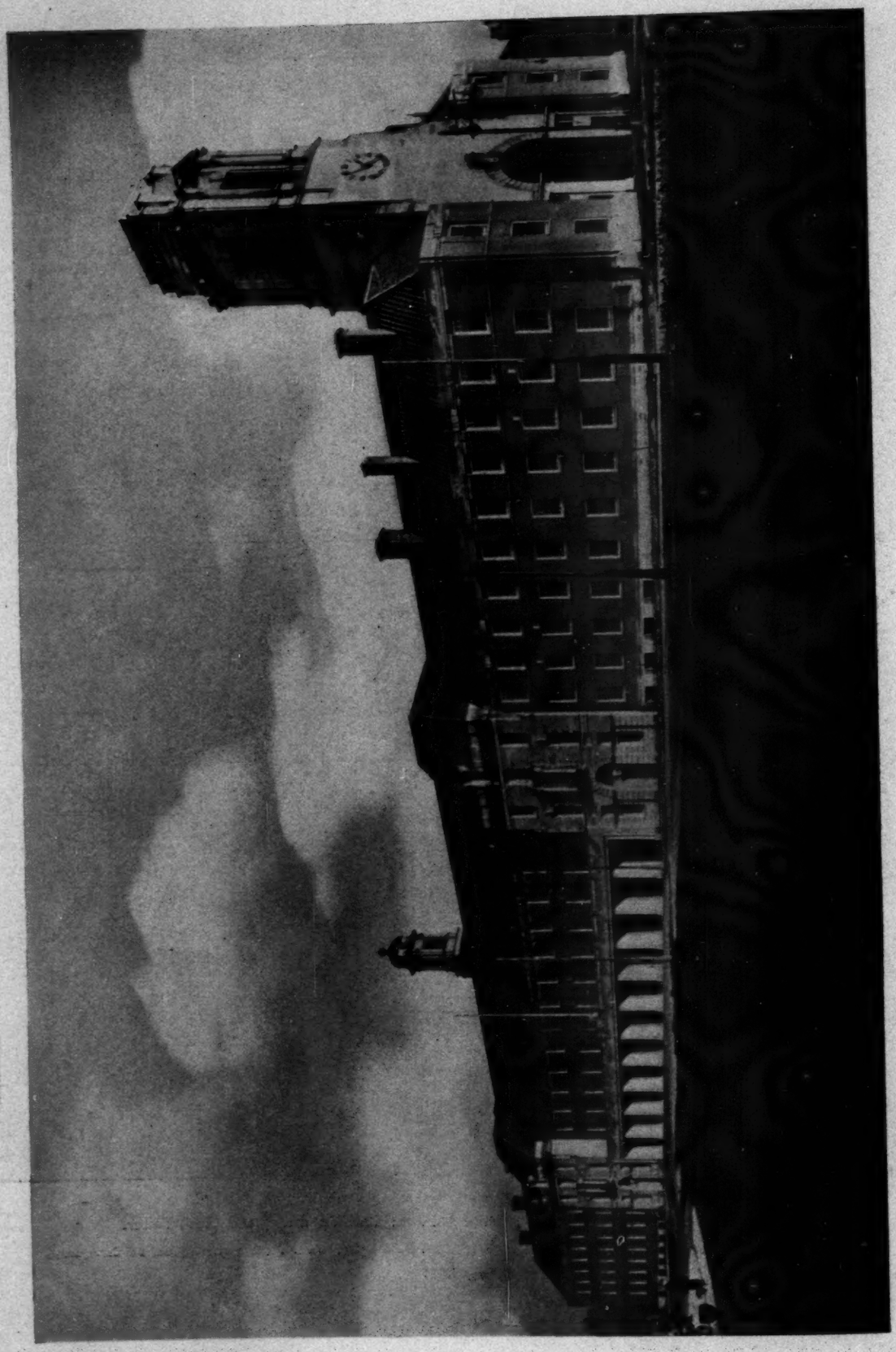
The Nature of Craftsmanship.

Having quoted from mediæval documents which set out the conditions under which certain work was to be done, the speaker came to a consideration of the modern craftsmen. Little in ancient architecture, he said, was designed—things designed by a single mind were mostly "sports" which must quickly perish. As Professor Lethaby said, "No art that is one man's doing is worth much—it should be a thousand men deep." Only that which was in the line of development could persist, because nothing looked well that had been done for "look," for although it might seem right at first, it quickly became diseased. Design was as nothing compared to craftsmanship, and only by being intensely real could we get back to good craftsmanship. We must aim at fine quality in all ordinary forms of workmanship before we thought of design, and should search out first principles in the work of our predecessors in order to ascertain their attitude of mind in adopting this or that form. After all, we must remember that beauty might be unadorned. All work that had any permanent value had been wrought o the ends it had to serve, and the careful elaboration of it gave its maker scope for his pleasure and occasion for his pride. We should eschew a sham "Tudor" house just as much as we should a bicycle in the style of a sedan chair. We could not forget the past, but we must abhor reproduction, which was soulless and could never lead one along the path of self-expression. Above all, we must give up designing the broken-down picturesque which was part of the ideal of make-believe—of pretence to beauty at second hand. He could best summarise his remarks by exhorting them to be true to their material—"never attempt to make cast-iron look like wrought-iron. Always remember," concluded the speaker, "that unless you feel man's hand and hear his voice, the product is not art. That is why machine-made articles are so tiresome: they have nothing to say. If a man really likes what he has got to do, he will make great efforts to express his materials, and will put the stamp of his individuality on his work."

THE NEW CENTRAL FIRE STATION, BIRMINGHAM: Main Returnway and Clock Tower.

Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

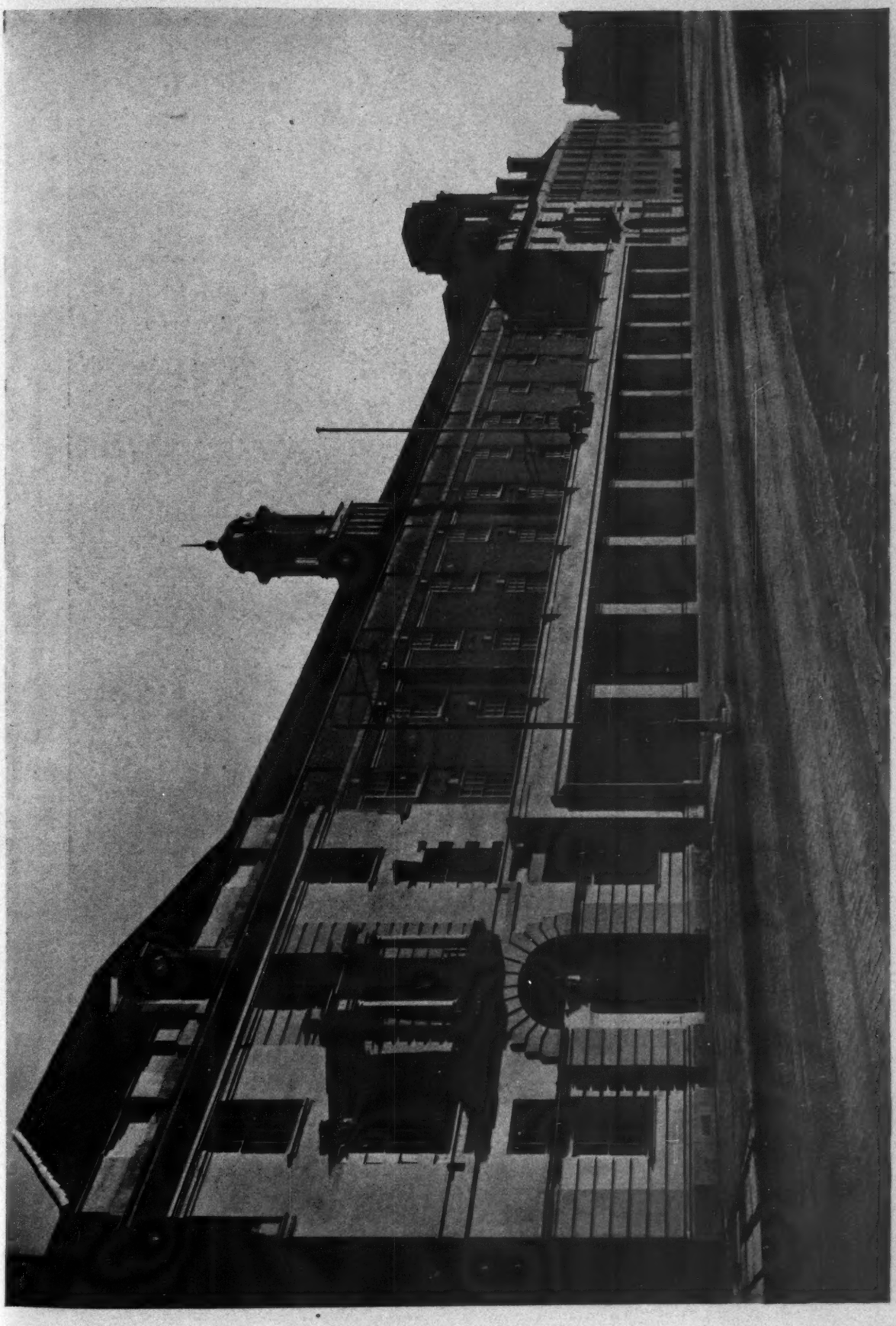
(See page 1022.)



THE NEW CENTRAL FIRE STATION, BIRMINGHAM: General Elevation.

Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

(See page 1022.)

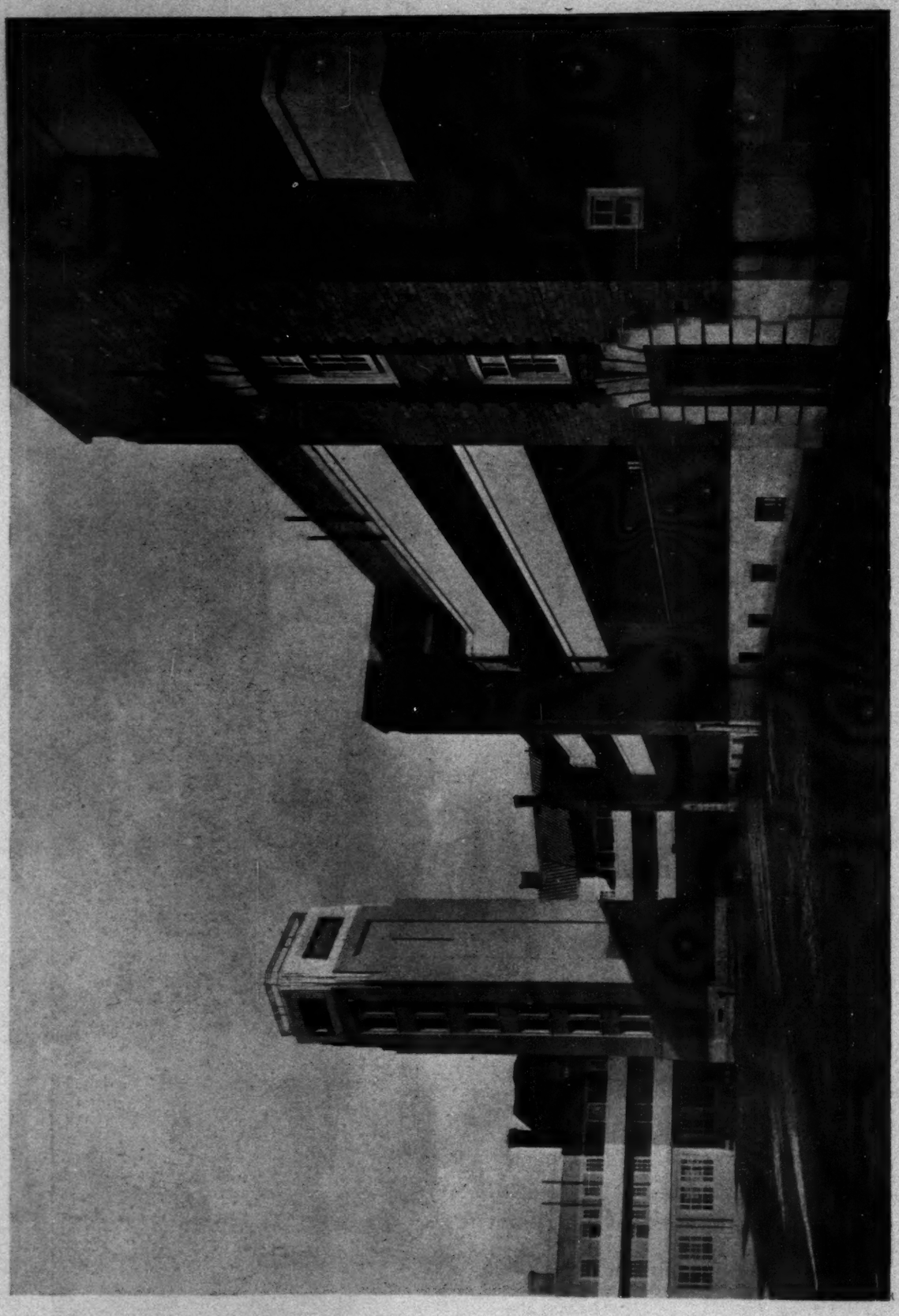


THE NEW CENTRAL FIRE STATION, BIRMINGHAM: Elevation to Corporation Street.

Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

(See page 1022.)

(See page 1022.)



THE NEW CENTRAL FIRE STATION, BIRMINGHAM: Courtyard, showing Drill and Hose Tower.

Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

(See page 1022.)

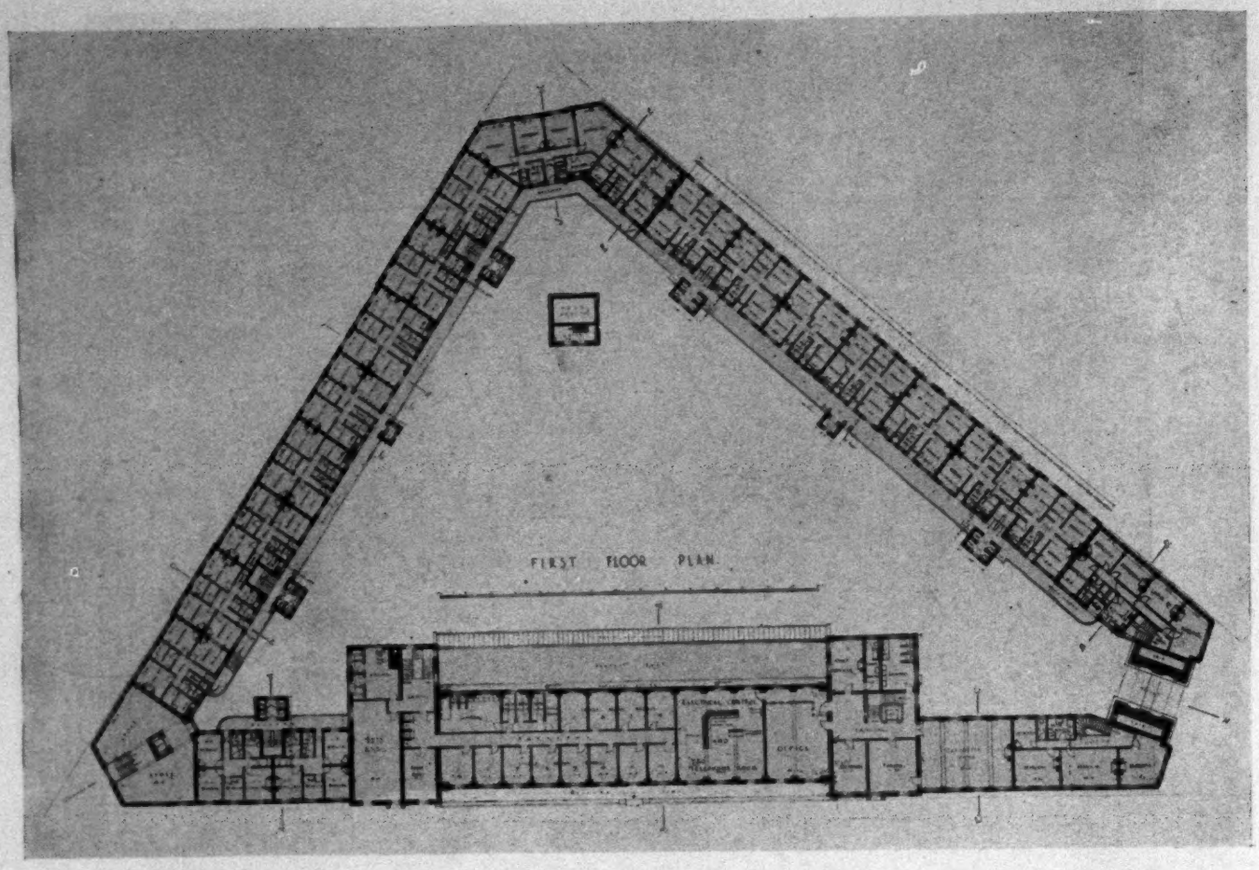
RECREATION ROOM.

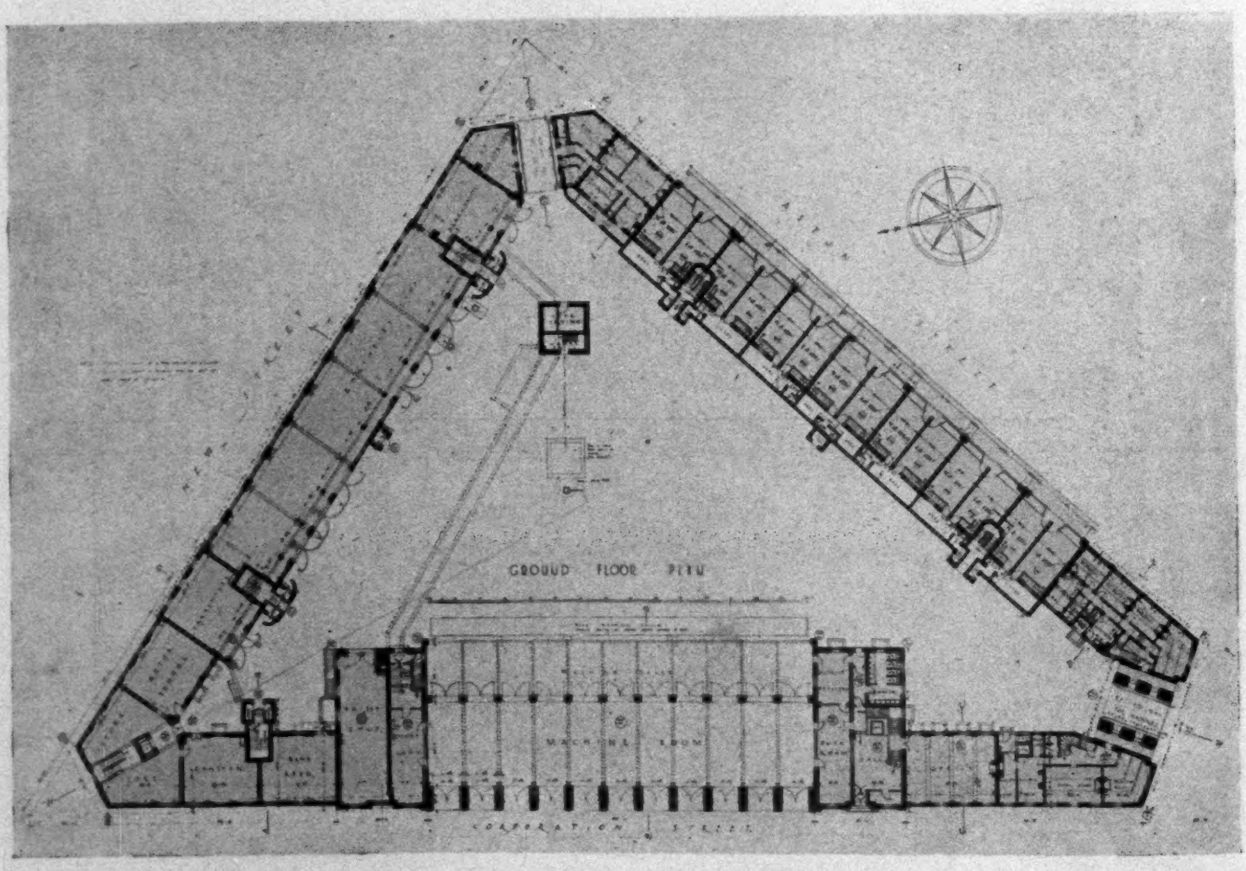
MACHINE ROOM.

THE NEW CENTRAL FIRE STATION, BIRMINGHAM.

Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

(See page 1022.)

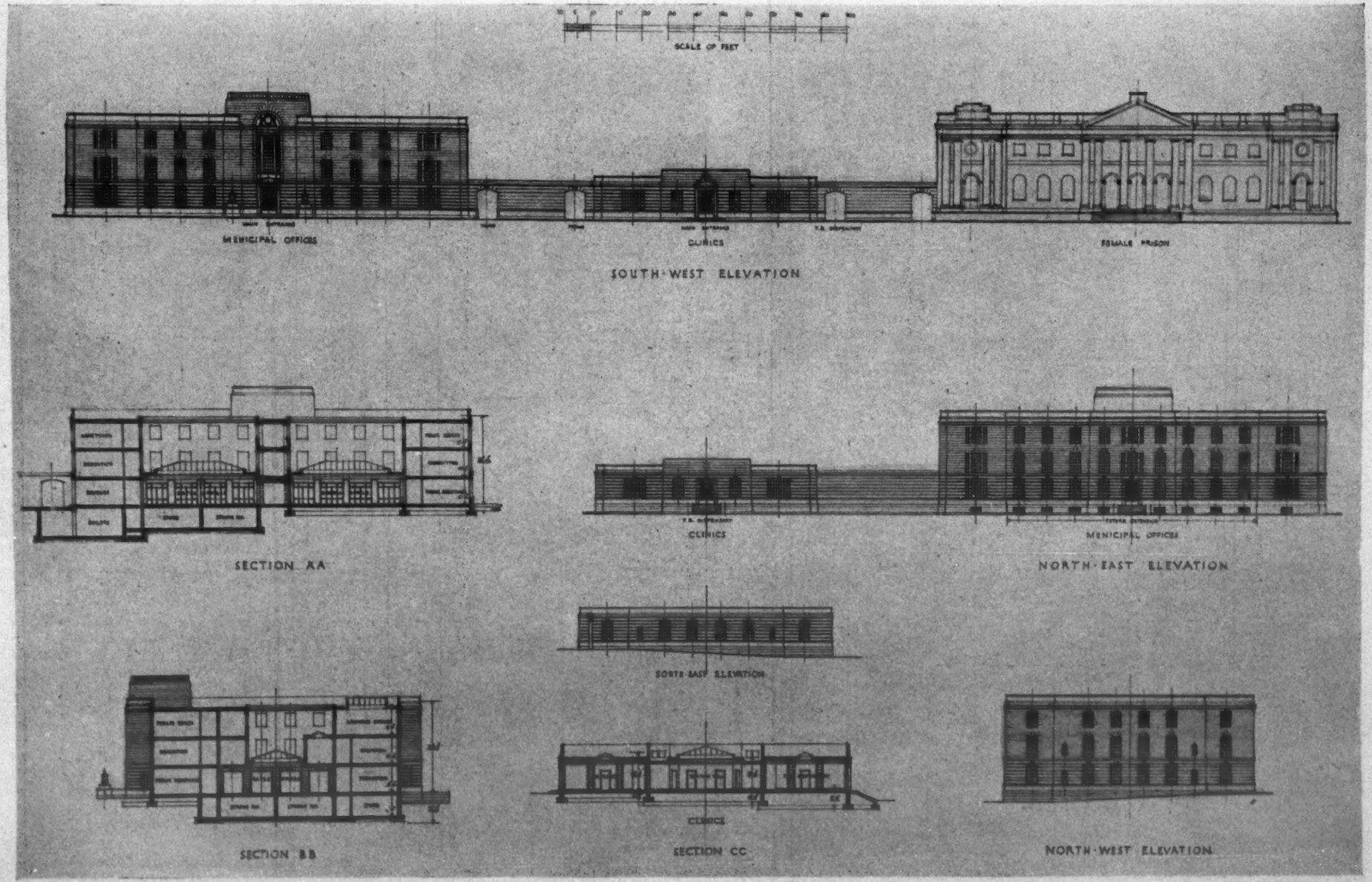




THE NEW CENTRAL FIRE STATION, BIRMINGHAM.

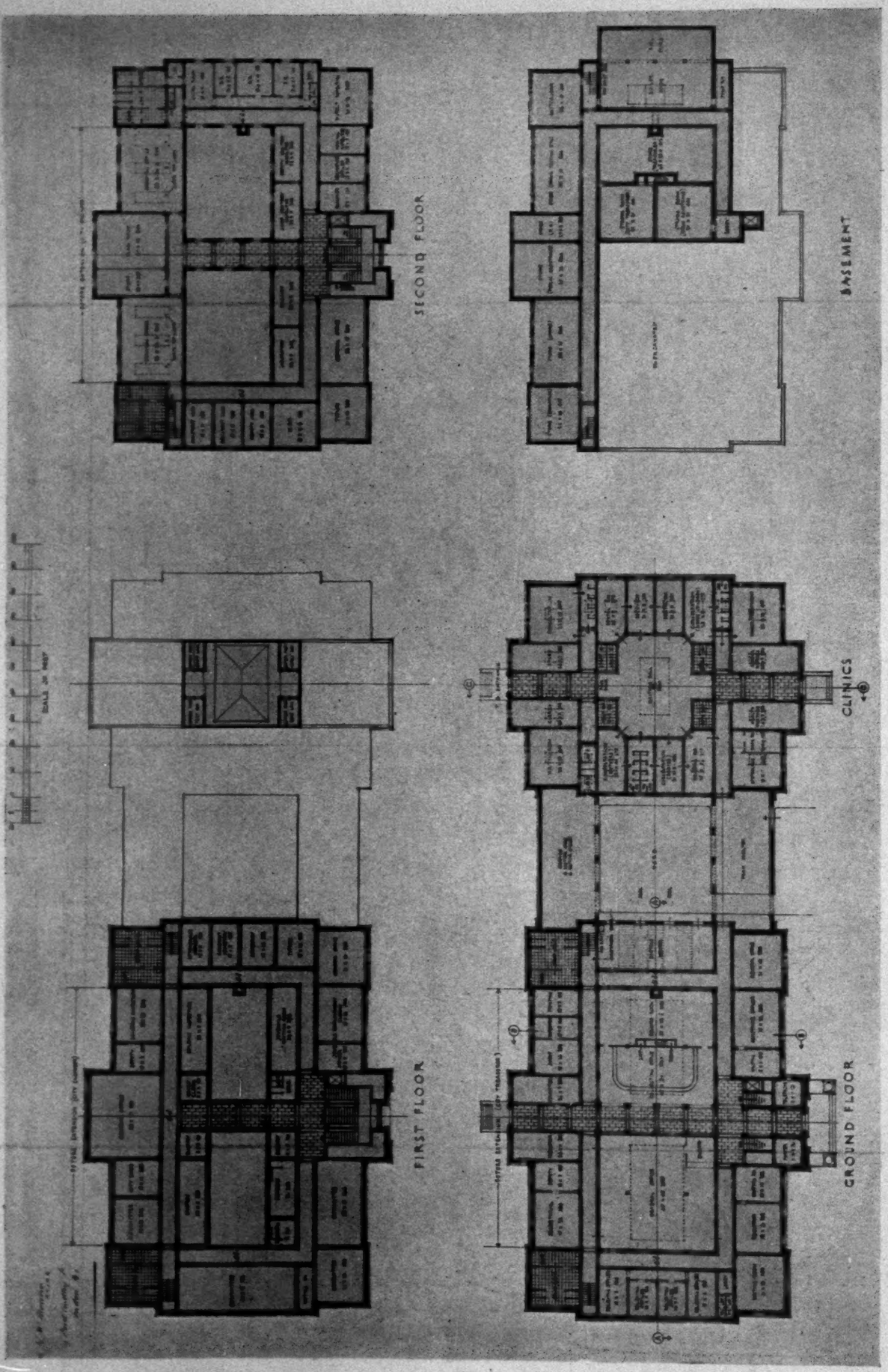
Designed by the Architectural Staff of the Corporation, under SIR HERBERT HUMPHRIES, M.Inst.C.E., Late City Engineer and Surveyor.

(See page 1022.)



COMPETITION FOR MUNICIPAL OFFICES AND CLINICS, YORK: First Premiated Design.

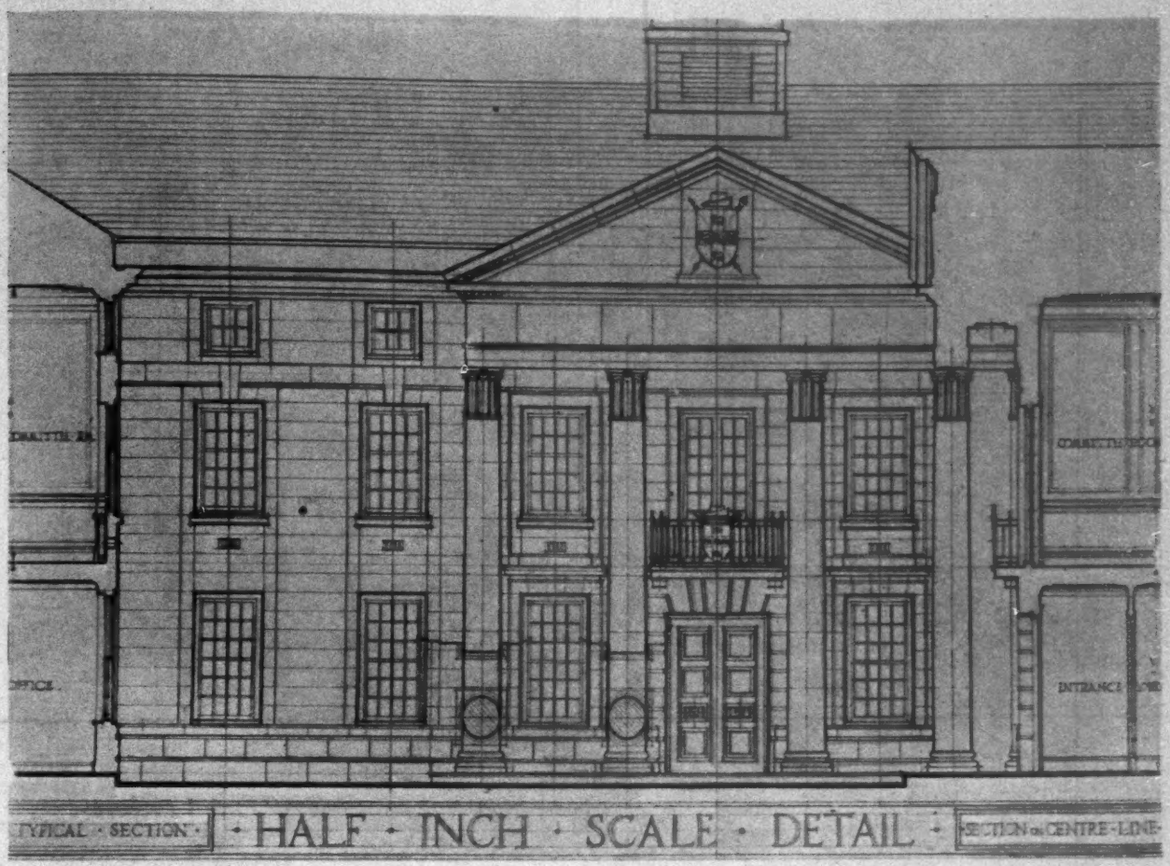
Mr. D. H. McMORRAN, A.R.I.B.A., Architect. (See page 1022.)



COMPETITION FOR MUNICIPAL OFFICES AND CLINICS, YORK: First Premiated Design.

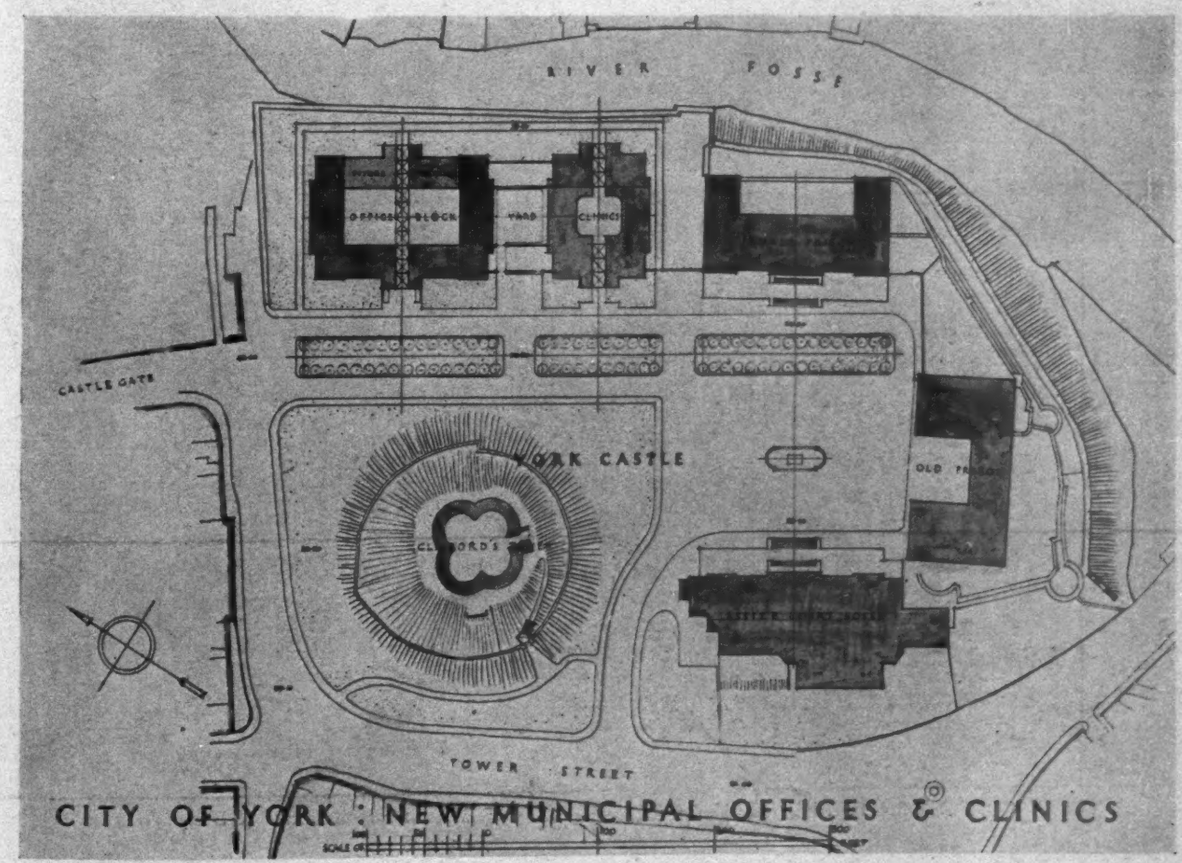
MR. D. H. McMORRAN, A.R.I.B.A., Architect.

(See page 1022.)



SECOND PREMIATED DESIGN.

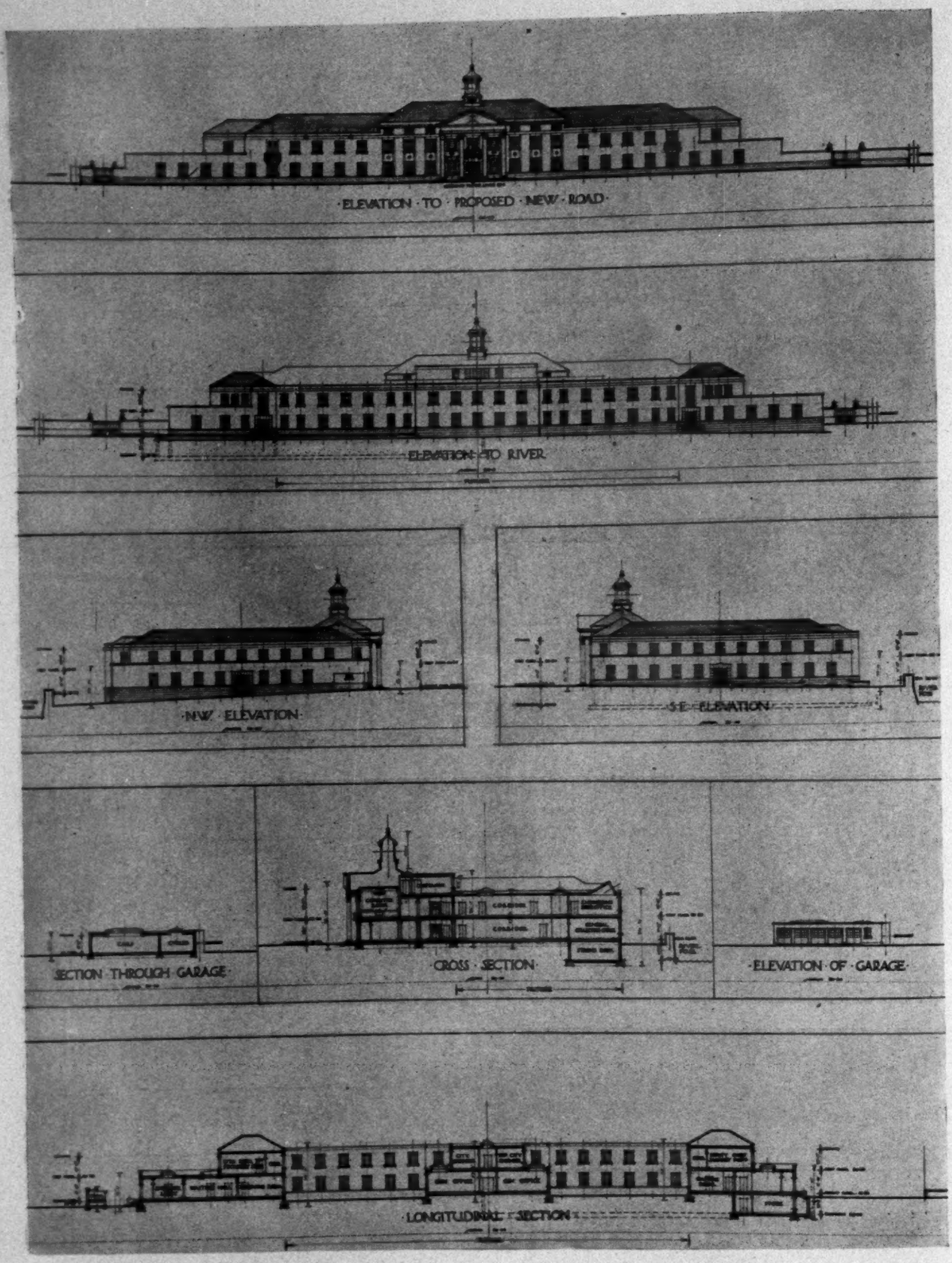
By Messrs. ELCOCK & SUTCLIFFE, FF.R.I.B.A.



COMPETITION FOR MUNICIPAL OFFICES AND CLINICS, YORK: Lay-out Plan of First Premiated Design.

Mr. D. H. McMORRAN, A.R.I.B.A., Architect.

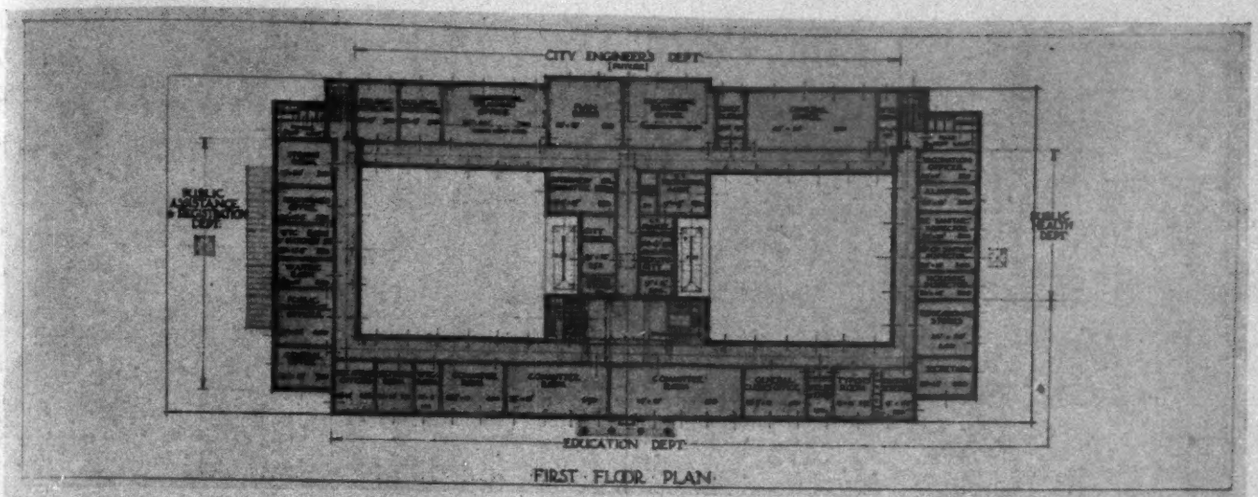
(See page 1022.)



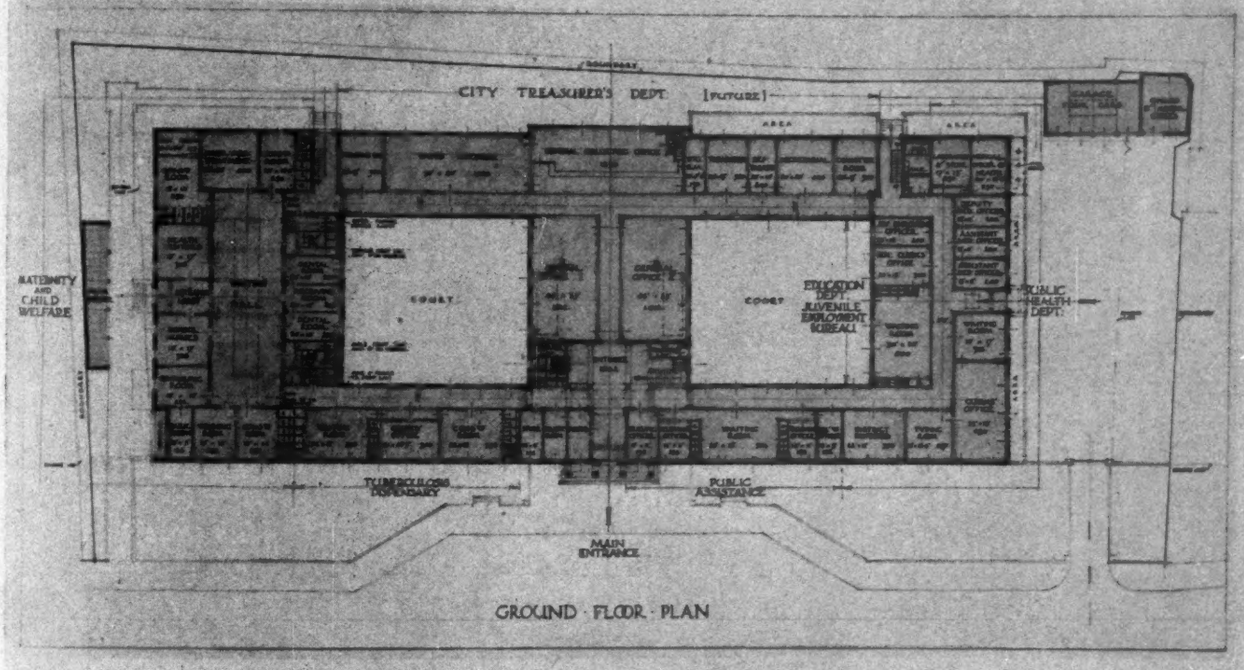
COMPETITION FOR MUNICIPAL OFFICES AND CLINICS, YORK: Second Premiated Design.

By Messrs. ELCOCK AND SUTCLIFFE, FF.R.I.B.A.

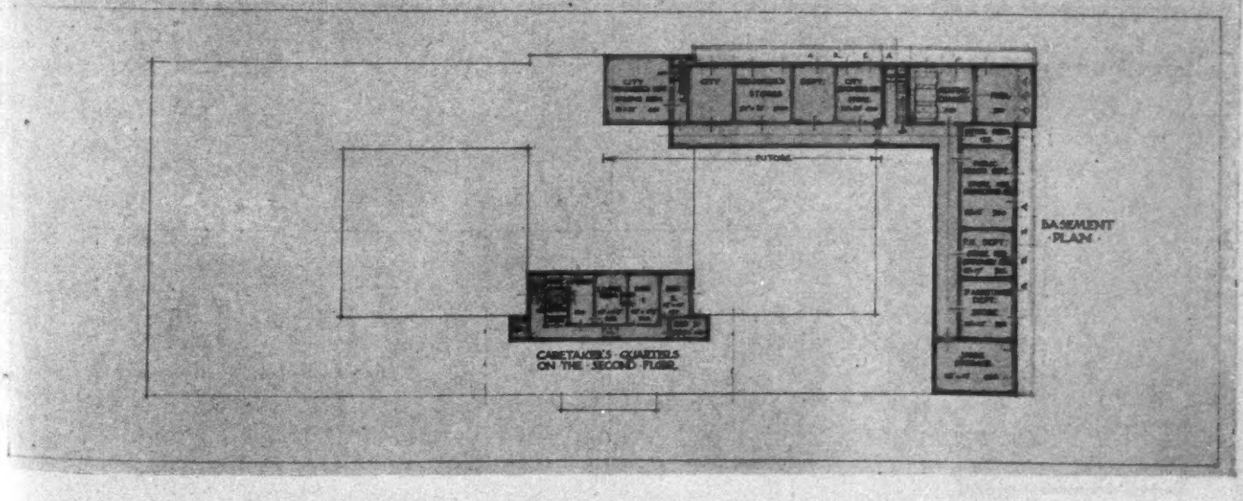
(See page 1022.)



FIRST · FLOOR · PLAN



GROUND · FLOOR · PLAN

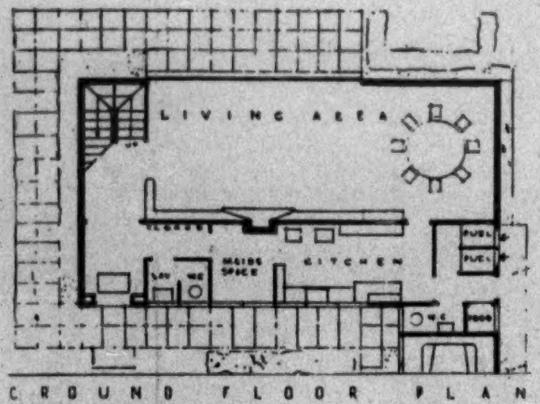


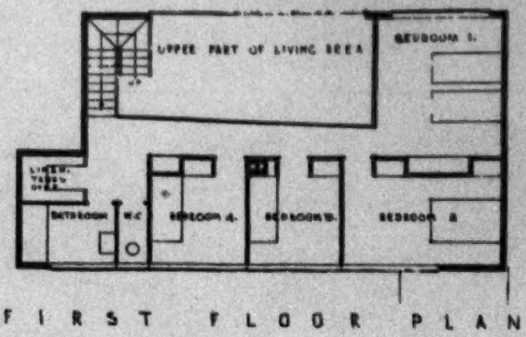
BASEMENT · PLAN

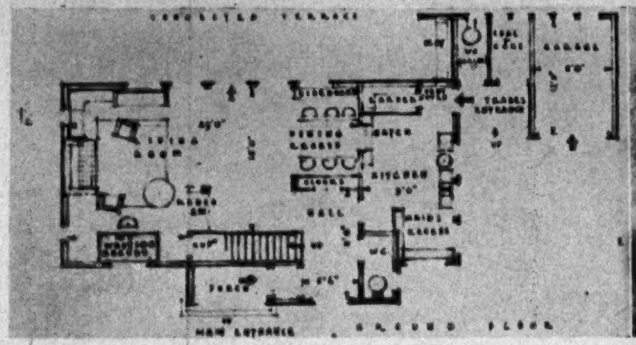
COMPETITION FOR MUNICIPAL OFFICES AND CLINICS, YORK: Second Premiated Design.

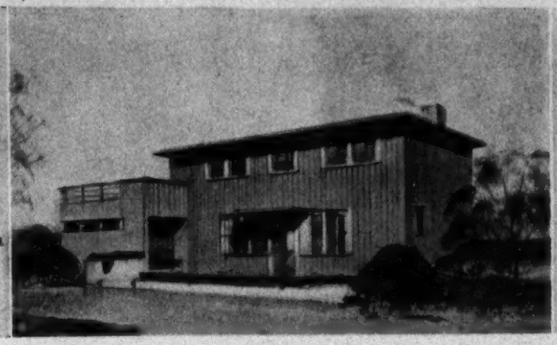
By Messrs. ELCOCK AND SUTCLIFFE, FF.R.I.B.A.

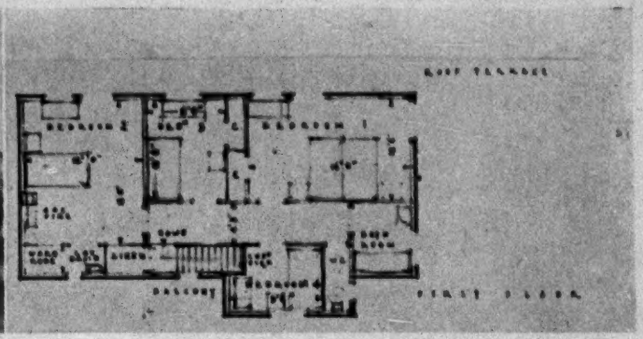
(See page 1022.)

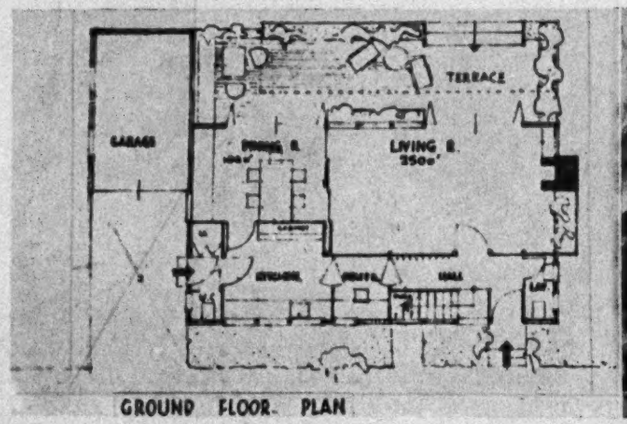


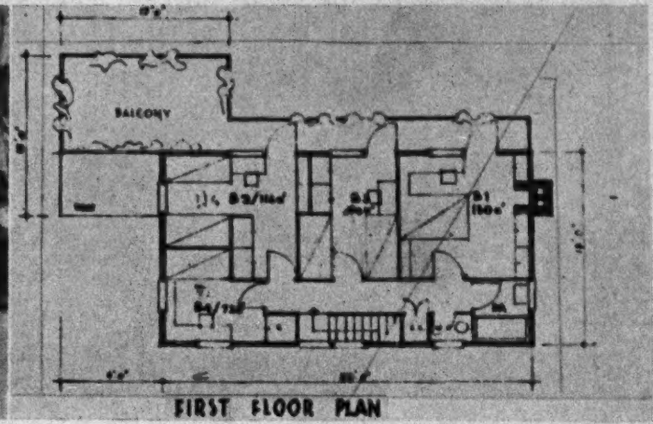








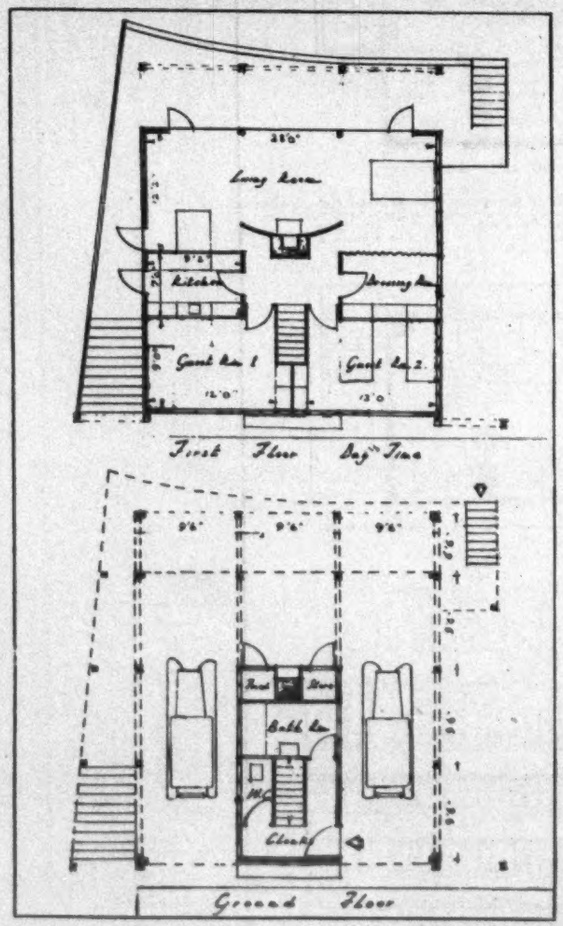




Organised by the Timber Development Association, Ltd.

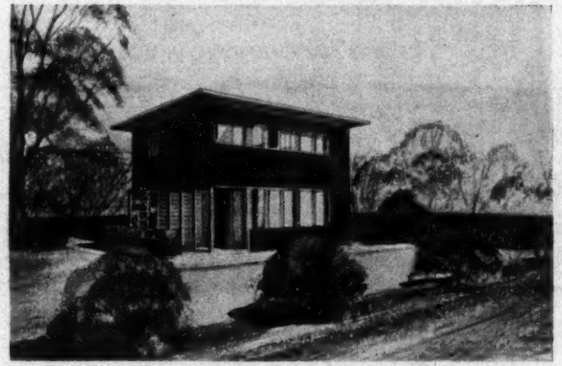
Top—1st—By Mr. REGINALD A. KIRBY. Centre—2nd—By Mr. E. H. LOCKTON. Bottom—3rd—By Mr. B. A. LE MARE, A.R.I.B.A.

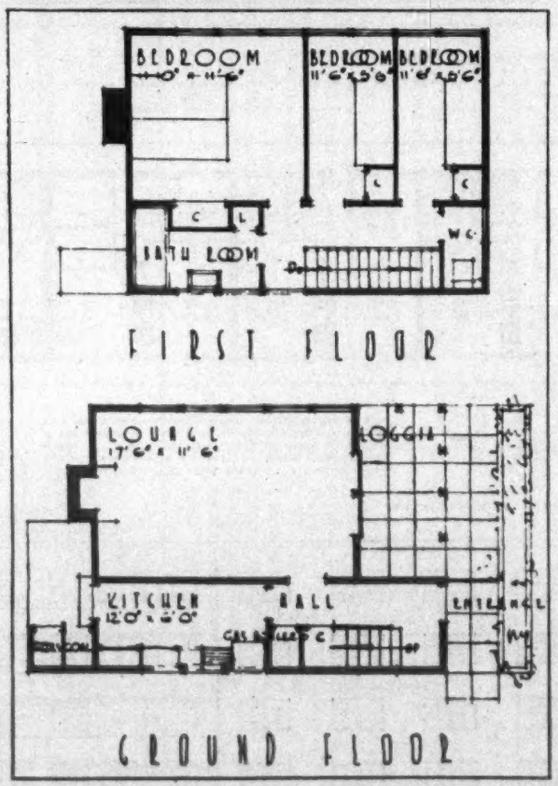
COMPETITION FOR TIMBER HOUSES: Winning Designs, Section 1. (Total cost, £800.) (See page 1022.



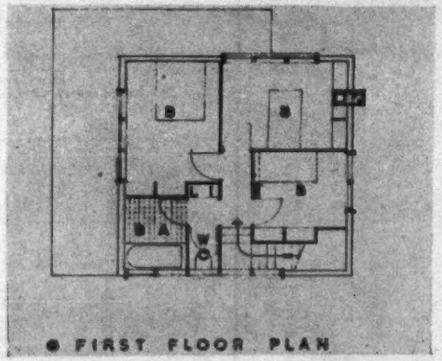
Organised by the Timber Development Association, Ltd.

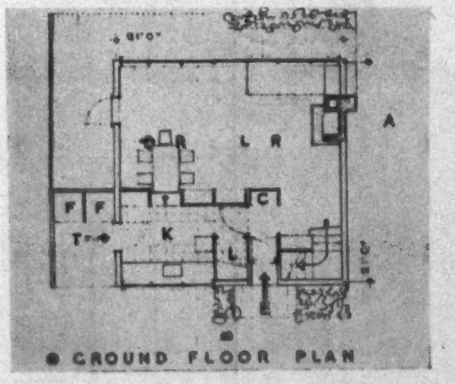
1st—By Mr. WILLIAM TATTON BROWN, B.A.





2nd—By Mr. HARRY MONCRIEFF, A.R.I.B.A.

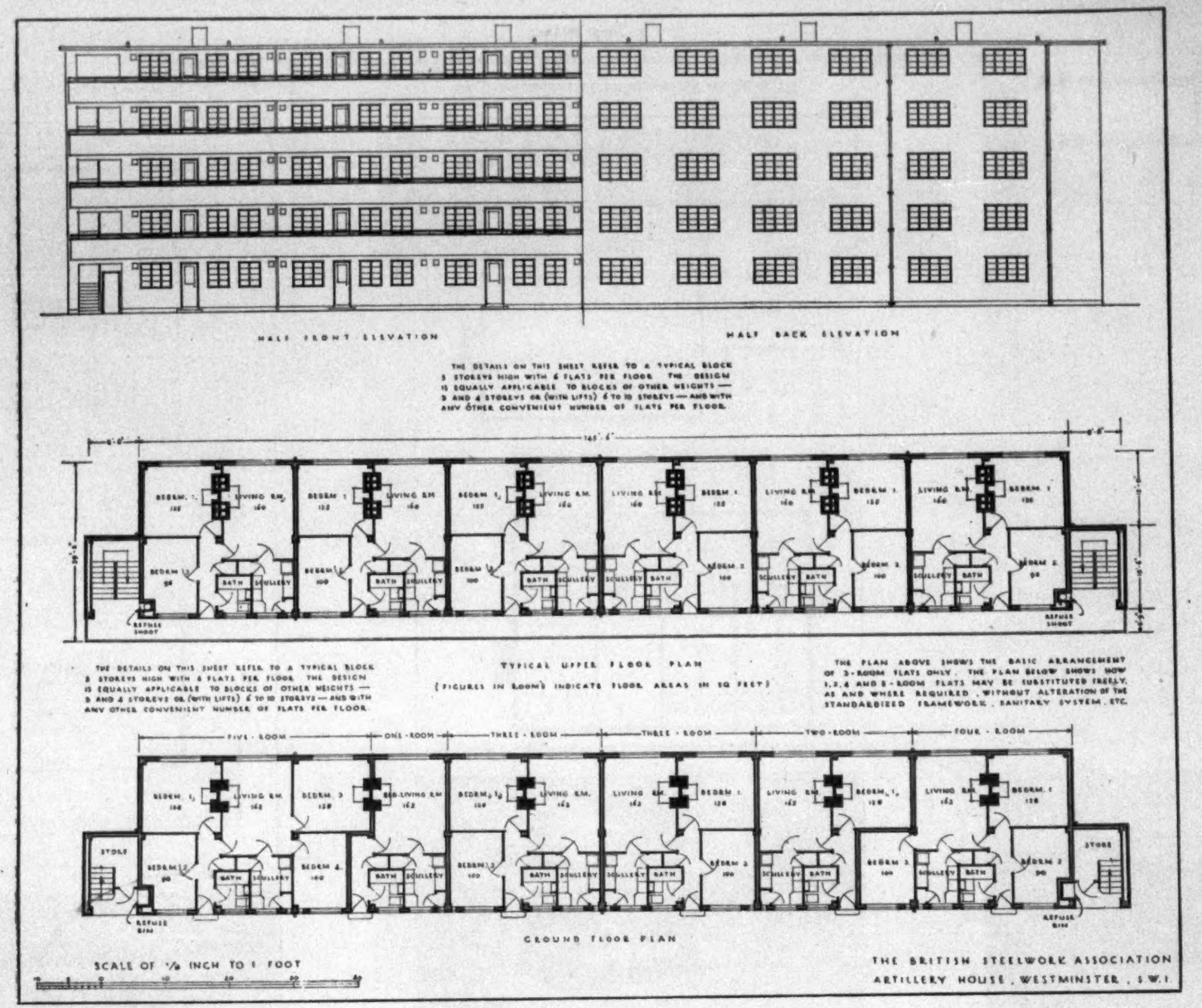




3rd—By Mr. CAMERON KIRBY, F.R.I.B.A.

COMPETITION FOR TIMBER HOUSES: Winning Designs, Section 2. (Week-end Cottages—total cost, £350.)

(See page 1022.)


HALF FRONT ELEVATION
HALF BACK ELEVATION
THE DETAILS ON THIS SHEET REFER TO A TYPICAL BLOCK 5 STOREYS HIGH WITH 6 FLATS PER FLOOR. THE DESIGN IS EQUALLY APPLICABLE TO BLOCKS OF OTHER HEIGHTS — 3 AND 4 STOREYS OR (WITH LIFTS) 6 TO 10 STOREYS — AND WITH ANY OTHER CONVENIENT NUMBER OF FLATS PER FLOOR.
TYPICAL UPPER FLOOR PLAN
(FIGURES IN ROOMS INDICATE FLOOR AREAS IN SQ FEET)
THE PLAN ABOVE SHOWS THE BASIC ARRANGEMENT OF 3-ROOM FLATS ONLY. THE PLAN BELOW SHOWS HOW 1, 2, 4 AND 5-ROOM FLATS MAY BE SUBSTITUTED FREELY, AS AND WHERE REQUIRED, WITHOUT ALTERATION OF THE STANDARDISED FRAMEWORK, SANITARY SYSTEM, ETC.
FIVE-ROOM
ONE-ROOM
THREE-ROOM
THREE-ROOM
TWO-ROOM
FOUR-ROOM
GROUND FLOOR PLAN
SCALE OF 1/8 INCH TO 1 FOOT
THE BRITISH STEELWORK ASSOCIATION
ARTILLERY HOUSE, WESTMINSTER, S.W.1

DESIGN FOR WORKING-CLASS FLATS.

(See facing page.)

DRAWINGS OF WORKING-CLASS FLATS

THE British Steelwork Association has issued a set of eight working drawings for working-class flats based on the recommendations of the first report of the Council for Research on Housing Construction. The Association has had these drawings prepared for the use of all who are interested in rehousing and slum-clearance schemes, and housing directors and others may obtain copies on application. The drawings are accompanied by a description and an outline specification, and the Association is prepared to supply any further information which may be required, on application. We take the following extracts from the descriptive matter :—

"The basis of the constructional system put forward by the Association is the use of a rapidly erected steel frame arranged in rectangular bays of standardised dimensions. Such a frame not only relieves the walls and partitions of the general structural load and thus enables their thickness and weight to be reduced to the minimum required for stability and insulation, but also, through the rapid erection in skeleton form of the complete building unit, makes it possible for the assembly and construction of all other components to proceed simultaneously, and without congestion, at all floor levels. The time required for the work is thus reduced to a minimum. Among the further advantages which follow from the adoption of a standardised steel-frame technique are independence of weather conditions from an early stage in the building operations, a large reduction in scaffolding costs, the provision in the framework of an accurate gauge or register for all other components as they are added, facilitating the early determination of precise sizes and advance placing of bulked orders, and consequent encouragement to the standardisation and mass production of larger unit components. The use of standardised steel staircases erected in conjunction with the steel frame assures and increases the advantages of the frame technique by providing easy access to all floor levels for all the later stages of assembly.

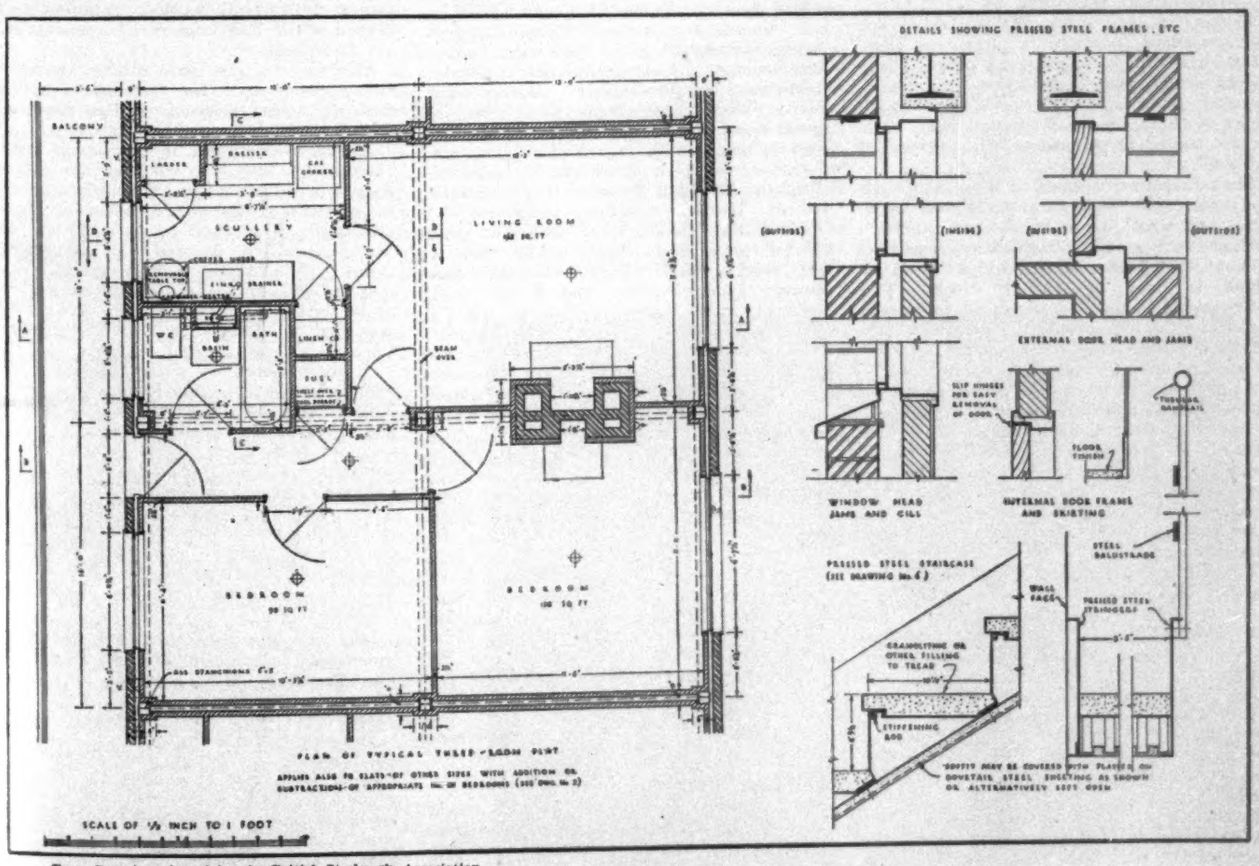
"Next to the use of steel framing and staircases, the best means of reducing assembly costs and the time required for building works, while maintaining and ensuring a high quality of workmanship, is the substitution, so far as possible of dry or semi-dry processes for wet processes. The Association is devoting close attention to such substitutions. In particular, it is believed that the sheet-steel floor shown on one of the drawings represents an important advance in this respect, since a very large wastage both of time and of money is involved in the shuttering, concreting and drying-out of successive floors on all existing 'wet process' systems.

"The Association's designs permit the use of a wide choice of block and slab materials for walls and partitions, and of finishing materials for walls, ceilings and floors. In showing a cavity system for external walls and the partitions between flats, and choosing 4½ in. facing brickwork for the outer leaf of the external walls and anhydrite or other superior quality partition blocks for the inner leaf and for all partitions, with a single-coat hard plaster finish to all internal wall and ceiling surfaces, a jointless composition finish to all floors and an asphaltic finish to the roofs and balconies, the Association believes that it has made the provisions which are most likely to satisfy the large number of requirements.

"The pressed-steel frames which the Association proposes for all doors and windows are a valuable further means of facilitating rapid, accurate assembly, of reducing fire risks and of preventing cracks. The door frames are designed to lap over the partitions in which they are set, thus making separate architraves unnecessary, while their uniform dimensions enable standard doors to be fitted with a minimum of adjustment on the job. The window frames are of special type, a single pressed unit providing not only the frame for the standard steel casement windows but also a stopping and templet for the wall cavity, a weather cill and combined bearing-bar and drip-head externally, and a lining and architrave all round the window opening internally. Pressed steel is also used for all skirtings, and provides, where desired, a convenient duct for pipes and electric wiring.

"While the Association is satisfied that the constructional system which it puts forward is of ample strength and resistance to fire, weather, etc., and is in general accordance with the recommendations in the recent report of the Ministry of Health Committee on the Design of Working Class Flats, it should be noted that in some respects it is at variance with the building regulations at present in force in London and some other areas. Since building regulations vary widely and are subject to many 'waivers' and other exceptions, it is impossible to state the extent of such variance with any precision; it is sufficient to note that the variance is mainly concerned with the use of cavity external walls, of cavity partitions between flats, partition blocks standing free in place of a close encasement of concrete to the steel stanchions, and of a 1-in. concrete cover for the steel joists. The Association has sound technical evidence for believing that in all these cases the suggested provisions are at least as effective as the provisions required by typical existing regulations, and in particular that the suggested wall treatments are from 10 per cent. to 20 per cent. better in heat insulation value than the widely accepted standard of 9-in. brickwork. The general superiority of a cavity system of walling for weather protection has been amply demonstrated by the investigations of the Building Research Station and other bodies."

The drawings, of which we give some portions, are excellently reproduced on sheets approximately 20 in. by 25 in. Applications for copies should be made to the British Steelwork Association, Artillery House, Artillery-row, Victoria-street, S.W.1.



From Drawings issued by the British Steelwork Association.

PLAN OF TYPICAL FLAT (on left); TYPICAL CONSTRUCTIONAL DETAILS (on right).

(See above.)

ILLUSTRATIONS

PLATES

The New Central Fire Station, Birmingham.

The new Central Fire Station in Birmingham, which was opened by the Duke of Kent last Monday, replaces an old one, which was badly sited and insufficient in capacity to accommodate the work of the fire brigade and the housing of the fire brigade officers and men. The area of the site occupied by the old station is 1,650 yards, while that of the new one is 8,200 yards, giving ample space for all present and future requirements as far as can be foreseen.

The new Station, which is situated in Corporation-street at its junction with Aston-street, is triangular in plan, and its third side faces a new street running between Corporation-street and Aston-street. The machine room, facing Corporation-street, gives the fire engines very convenient and spacious turnouts to all parts of the city. Retail lock-up shops, for letting to the public, are planned on the Aston-street frontage; over these are two stories of firemen's dwellings. The new street frontage is occupied by the various workshops.

The accommodation provided is as follows: A machine room, which fronts to Corporation-street, 154 ft. in length and 32 ft. in width, is arranged to provide standing room for eleven machines, all of which may be turned out immediately, and at the rear there is a covered washing space running the full length of the machine room, with a width of 21 ft. In addition, there is room for two more machines. The doors of this room, all of which can be operated electrically from the panel in the control room on the first floor, can be simultaneously opened, individually opened, or opened in any group combination. Above the doors are loud-speakers, which are also mechanically operated from the control room, through an amplifier which is also placed in this room. All the call bells in the building are rung and the engines started from the control room. The master clock is also worked from this room.

Facing the new street, the workshops and machine shops consist of a carpenters' shop, electricians' shop, engineering shop, blacksmiths' shop and high-tension sub-station, together with a large stores department. There is also a brick-built tower, 93 ft. high, for the combined purpose of hose drying and wet drill.

The administrative block of the station faces the junction of Corporation-street and Aston-street, at which point is situated the main entrance to the station and offices, consisting of an archway surmounted by a tower, on which is fixed an electric clock. This entrance block has been designed to provide a pleasing feature, closing the vista of a long length of Corporation-street, and to provide an architectural feature in Central-place.

At the entrance are situated the chief officer's house and a block of flat dwellings to be occupied by the first, second and third officers. Adjoining the chief officer's house, facing Corporation-street, are the offices and duty room on the ground floor, with additional offices and committee room on the first floor, and other offices, muniment room, etc., on the second floor.

The living accommodation provided for the married men consists of the chief officer's house and 42 firemen's flats. Provision has also been made for 12 single men, so that 55 firemen are provided with living accommodation.

The buildings facing the new street have a flat roof laid out as a playground, to provide space for recreation for the children living in the flats, this being approached from the balconies that serve the flat dwellings.

For the purpose of training the men there are provided a large drill yard in the centre of the site, fume chambers for rescue work training, and a sprinkler testing chamber. There is also a large schoolroom on the first floor, and for the men's recreation there is a recreation room, 154 ft. long by 35 ft. wide, which can be divided into two parts, one of which will generally be used as a gymnasium and the other as a billiards room, smoke room, reading room, etc. Attached to the recreation room is a kitchen, messroom, etc. The single men are also provided with a messroom, kitchen, etc. Special bathing facilities (six shower baths) have also been provided.

Architecturally the design is on simple lines and in keeping with the purpose for which the building is intended and the locality in which it is situated. The street frontages of the building are faced with brick and Portland stone. The most prominent features of the building are a clock tower, 100 ft. high, and the pavilions which occur each side of the engine room, one of which forms the entrance to the offices.

Structurally the building consists of a steel frame faced with local hand-made bricks and Portland stone, and it is roofed with hand-made Roman-pattern tiles. The foundation under the tower consists of a reinforced concrete raft 4 ft. 6 in. thick, supported by sixteen reinforced concrete piles, which penetrate the subsoil to a depth of 26 ft.

The building has been erected by Messrs. Percy W. Cox, Ltd., builders and contractors, of Handsworth, Birmingham, from designs produced by the Architectural Office of the City Engineer and Surveyor's Department.

(Sir Herbert Humphries, C.B.E., M.Inst. C.E., is the late City Engineer and Surveyor.)

The cost of the work was approximately £150,000.

The main contractors were Messrs. Percy W. Cox, Ltd., of Handsworth, and the following firms, among others, were associated with the work: Rhodes Chains, Ltd., Birmingham, sash pulleys and chains; Hills Patent Glazing Co., Ltd., Smethwick, glazing; Stuarts Granolithic Co., Ltd., Stechford, granolithic; Chas. Wade and Co., Ltd., Birmingham, structural steelwork; Midland Plastic and Grano. Co., Erdington, plastering; Dunlop Rubber Co., Ltd., Birmingham, rubber flooring; Franki Compressed Pile Co., Ltd., foundations; Permanite, Ltd., asphalt; Alpha Cement Co., Ltd., cement; Twisteel Reinforcement, Ltd., reinforcing material; Baldwins, Ltd., Birmingham, sanitary work; Walker Bros., Ltd., Birmingham, electrical installation; Leeds Fireclay Co., Ltd., Birmingham, wall tiling; Evans Lifts, Ltd., Leicester, lifts; J. R. Pearson, Ltd., Birmingham, wrought ironwork; Bigwood Bros., Balsall Heath, structural ironwork; J. Gerrard and Sons, Ltd., Swinton, Manchester, wood block floors; Wm. Newman and Sons, Marley Bros., electrical door-opening gear; Hoskins and Sewell, Ltd., Bordesley, steel casement; Ramsay and Co., Ltd., Birmingham, locks, etc.; "Magneta" Time Co., Ltd., electric clocks; Bath and Portland Stone Firms, Ltd., Bath, stonework (second contract); Helical Bar and Engineering Co., Ltd., suspended concrete floors; Gaskell and Chambers, Ltd., Birmingham, canteen seats; Herbert Morris, Ltd., Loughborough, travelling crane; Aldridge Brick and Tile Co., Ltd., Aldridge, general facing bricks; J. C. Edwards, Ltd., Ruabon, silver-grey facing bricks; British Steel Piling Co., Ltd., steel piling; Richards Tiles, Ltd., Tunstall, Stoke-on-Trent, floor tiling; Hurry Water Heater Co., Ltd., Birmingham, wash boilers; Gent and Co., Ltd., Leicester, electric fire bells; Allied Guilds, Ltd., Erdington, fibrous plaster; Honeywill and Stein, Ltd., acoustic work; Scaffolding (Gt. Britain), Ltd., Birmingham, scaffolding; Educational Supply Association, Ltd., folding partitions; Luxfer, Ltd., pavement lights.

Municipal Offices and Clinics, York.

The award of the assessor in this competition (Mr. H. V. Ashley, F.R.I.B.A.) is given on page 1002. From the report of the architect, Mr. D. H. McMorran, A.R.I.B.A., who has been awarded the first premium, we take the following extracts:—

The accompanying design for Municipal Offices and Clinics presents a simple, direct solution to the problem stated in the instructions to competitors. The buildings at present occupying the historic precincts of the Castle of York form an architectural group of the greatest interest, and it is regarded as essential that the new buildings, while accommodating the City Department in the most efficient and dignified manner, shall also form a definite contribution to the effect of this group.

It is proposed to place the new offices at the northern end of the site, forming a block which will balance the Female Prison on the south. A central position is allocated to the clinics, which are linked to the buildings on either side by screen walls. The proposed new road, forming a continuation of Castlegate, is planned with a double carriageway and a central grass alley lined with pleached trees; this treatment is extended in front of the Female Prison, thus uniting the old and new work and forming a suitable background for the picturesque Castle Mound. The space in front of the Court House is treated as a paved square, having a central feature in the form of a fountain or statuary group.

A general yard is provided between the offices and clinics, and around this are grouped the pram shelter, bicycle room, and garages. This yard also gives access to the caretaker's entrance and provides for fuel delivery and ash removal.

The offices are planned to be carried out in two portions as directed, the first section being complete in itself. The future extension will be approached directly from the main entrance, and from the main staircase and lift on the upper floors. A secondary entrance is provided at the rear, giving access on the ground floor in conjunction with the public rates hall.

It is proposed to carry out the whole of the basement in the first section of the work, leaving a finished concrete surface at ground floor level to receive the future building.

Two secondary staircases provide means of escape from both sections, and adjoining these are the staff lavatories, accessible from all departments.

The whole of the work will be carried out in accordance with the Corporation by-laws, fire-resisting materials of British origin and manufacture being used throughout.

The office block will be designed as a steel-framed structure, the whole of the external walls being executed in brickwork faced with an approved northern grit stone in courses alternately 9 in. and 4½ in. deep on bed. The roofs will be covered with natural rock asphalt, ¾ in. thick in two layers, laid on roofing felt, and 3 in. of compressed cork as insulation. Floors will be carried out in approved reinforced hollow tile construction.

A low-pressure hot-water heating system will be installed, having automatic coke-fired boilers fitted with cross connections and cut-out valves. The hot-water service will be operated from a calorifier. Forced extract ventilation will be applied to certain sections of the building as required.

The equipment generally will include electric lighting and power systems, synchronised clocks, and internal and P.O. telephones. Acoustically absorbent material will be introduced in the typing rooms and elsewhere as required.

[We also illustrate this week the second premiated design, by Messrs. Elcock and Sutcliffe, FF.R.I.B.A.]

Competition for Timber Houses.

The object of this competition, which was organised by the Timber Development Association, Ltd., was to explore the extent to which wood can be economically and effectively used in domestic building, and to give designers opportunities for solving economically problems of accommodation. The assessors were Messrs. Robert Atkinson, F.R.I.B.A., G. Grey

(*Continued on page* 1028.)

SCIENCE AND THE ARCHITECT

Dr. R. E. Stradling, Director of Building Research under the Department of Scientific and Industrial Research, opened on Friday, November 29, a new materials gallery of the Liverpool School of Architecture in the Leverhulme Building of the University of Liverpool. Some particulars of the gallery were given in our last issue, and a view is shown on this page.

In addressing the gathering on "The Architect and Building Materials," Dr. Stradling said if the architect had to keep in mind planning requirements, structural design and commercial practicalities of modern building conditions, and all the time be creating some worth-while work of art, one wondered how much more the human brain could manage in the way of a detailed knowledge of the thousands of building materials which must be considered and accepted or rejected for the work in hand. It seemed almost self-evident that the knowledge of materials must be an ever-present mental background upon which the architect's mind must instinctively call if his artistic ability was to have reasonable scope.

How could this essential background be obtained? Two ways seemed possible :—

(1) Restrict the field of possible design to traditional materials used in the traditional manner and trust to the craftsman for detailed knowledge.

(2) Have no restriction in the field of design, but possess a basic science of materials which enabled the essential properties of materials for the various portions of the building to be realised, which provided knowledge to ensure that these properties were provided.

The first case, continued the speaker, was not lightly to be dismissed if it was possible to achieve. Unfortunately, it seemed no longer possible. The second possibility was the only really suitable one for the present day, but he suggested it required much more serious attention by the schools of architecture than it was receiving, if the so-called "modernist" was to have the chance he deserved. He must be equipped to meet his modern conditions, and it was the absence of adequate training on that side that, as an outsider, he ventured to criticise.

An example might make that point of view clearer. In traditional English house design one usually found a pitched roof with appreciable eaves, reasonable sills at the top and bottom of windows and doors; the walls constructed of brick or stone, or possibly rough-cast. Such construction was usually thoroughly weatherproof if reasonably carried out in traditional materials. It probably developed, of course, from that need, and not because of any deliberate striving after an artistic effect.

Compare now a typically modernist design of a box-like structure with flat roof, no weather projection over parapets, windows or doors; walls rendered in smooth Portland cement rendering. From inquiries received at the Building Research Station it seemed that such structures were often anything but weatherproof. He had no desire to discourage departure from traditional forms, but it must be realised that the real old forms were not artistic freaks, but answers "hammered out" over years of striving to develop weather protection from our variable climate. Before discarding old forms it was essential to make sure that those it was proposed to use instead met the essential protection requirements for which the building industry really stood. Even when this was done, and new materials or rearrangements of old ones were contemplated, an intimate knowledge was necessary of their properties, not only alone but also in juxtaposition, if a sound structure was to result.

The modern demands in the building industry were very different from those under which the traditional forms developed. The higher standard of living for our people generally, as evidenced by our slum clearance plans, brought quite new problems. He could only appeal to the students to emphasise for themselves the importance of this study of materials. It was sometimes regarded as the Cinderella among the subjects of a school course. It was really the fundamentally important thing in the whole of the architect's training.

CITY AND GUILDS OF LONDON INSTITUTE

EXAMINATIONS IN BUILDERS' QUANTITIES: FAULTS OF EXAMINEES.

These examinations are taken annually by a large number of building trade students as well as by some from the allied professions. It may therefore be of value if some indication is given of the direction in which students have failed or fallen short in the tests given in the 1935 examinations. As the examinees are no doubt typical of many other students who do not sit for the examinations, the official notes following should be of general interest to all studying this important branch of building.

A certain number of elementary faults were found common to both Intermediate and Final candidates. The importance of careful and systematic setting down of dimensions appears to need emphasis. Many did not appreciate the purpose and value of collections on "waste," too many considering that these calculations should be done on any piece of scrap paper in the roughest possible way. It seems difficult to instil into the student's mind that waste collections, being as much part of the dimensions as the figures set down in the dimension column, should be equally carefully written, and that there is one place only for such calculations, and that is, in the description column of the dimension paper. Students should be impressed with the twofold object of showing these calculations, viz., to indicate how measurements are made up, and to enable the arithmetic to be checked by a second persons, which latter would not be possible if the calculations were mental or scribbled on rough paper.

Another point which needs general emphasis is the importance of clearness rather than neatness. A student loses no marks for dimensions or descriptions carefully crossed out or "nilled" and rewritten, but the superimposing of figures or crowding up of dimensions or descriptions in such a way that the intention is doubtful is bound to tell against the candidate.

Inconsistency in the order of dimensions was a common fault. Even in two consecutive dimensions, such as excavation for a trench, the figures would be found set down as length, width and depth followed by width, length and depth. The consistent order adopted by quantity surveyors and the building trade (apart from the apparent perverseness of metal window manufacturers) has a real value when dimensions have to be traced and even sometimes in pricing the item

Common-sense is found at times to be lacking amongst candidates. An instance in the Final Examination was the intention to measure the length of a rising main so accurately that the dimension was set down with an odd ¼ in. in it. Quantity surveying is not an exact service in the sense that astronomy or even the calculations of the structural engineer are exact. It produces an "estimate," and a sense of proportion is invaluable.

To turn to the individual questions. In the Intermediate Examination, the ever-present danger of forgetting to "twice" the roof slopes found its victims. A number did not know how to calculate the length of a hip or valley. A systematic arrangement was often lacking in the dimensions representing the deductions and adjustments for a window opening, and the value of a systematic order of items in avoiding omissions should be emphasised.

The Final Examination brought to light a good deal of ignorance on elementary points. There was a circular corner to a room, the wall finishings of which were to be measured. A large number could not express correctly in the dimension column the area of wall to that circular corner. The walls of this room had a glazed tile dado, and many found difficulty over the measurement of this. Some measured the finishing separately from the undercoat of plaster, taking the undercoat full height and the finishing above dado only. Some ignored the adjustment altogether, whilst others took the screed as "extra on plaster" or the plaster as "extra on screed." A quarry tile skirting to this room was measured as "extra over white glazed tiling." Some measured all the finishings to the circular corner as "extra over straight work." The object of describing items as "extra over" does not appear to be understood.

To sum up; there are a number of candidates who do not appear to have been instructed sufficiently in the fundamental rules and principles. Their time as evening students is no doubt very limited and the syllabus wide, but it would appear to be more beneficial to them in practice, as well as in the examinations, if more attention could be given to simple examples. A little knowledge is, proverbially, a dangerous thing, but if the subject matter is limited the knowledge need not be little. A student will be of more value in the office and probably more successful in examinations if he is really proficient in such part of the syllabus as he does cover.

THE NEW "MATERIALS GALLERY" IN THE LIVERPOOL SCHOOL OF ARCHITECTURE.

THE FUTURE OF LONDON

LECTURE TO ARCHITECTURAL ASSOCIATION.

A LECTURE on "The Future of London" was given by Mr. E. A. A. Rowse, A.R.I.B.A. (Principal, A.A. School of Planning and Research for National Development), at the Architectural Association premises, Bedford-square, W.C.1, on Friday, November 29.

Out of its past, commenced the lecturer, had developed the London of the present. It was therefore only from an examination of the tendencies of our own time that conclusions might be drawn as to the nature of the London of the future. Given the requisite patience—which few possessed—it was a great comfort to realise that, beneath the apparent confusion, forces were at work which would inevitably solve our present difficulties. Most potent among these was the fall in population which, within forty years (statisticians told us), would be back to the 1890 level of 33 millions. This must ultimately thin both town and country densities. London would reflect this change in spite of augmentation due to the magnetic attraction of a great city. We might possibly expect a cessation of the present outward growth.

But within the population the family unit is changing. By 1976 births would, it was estimated, have fallen by 7 millions, and those over 65 would probably exceed the replacement group under 15 by over 2 millions. On the other hand, the smaller family unit, needing less space, yet independent in its outlook, demanded a greater provision of separate dwelling units. "Expansion of accommodation according to age groups must be closely studied," declared the lecturer. "Broadly speaking, it may be horizontally in more widely spaced separate houses for the family group, i.e., from birth till school age or over, and the middle or child-rearing period of 25 to 45. From 18 to 30, the batchelor group, and from 50 to death, the retired group, accommodation arranged vertically to great height may dominate, as the adverse balance between domestic workers and mechanical aids emphasises itself. Residential areas may therefore show a still more sharply contrasted development of huge towers and separate homes in the true sense of the word, where any intrusion on privacy is impossible."

But numerically reduced though it might be, population would still need to move. The old main channels now impinging on the congested centre would persist, until they were straightened and protected from all interruption, thus becoming the speedways we so sorely needed. The raised docks road over Silvertown might be pregnant with possibilities. With railways fully electrified and either underground or suspended as railplanes in the air; with the roofs of the new main stations, which would eventually stand on the rail ring round London, utilised as aerodromes; the present system might not be so overloaded, but it could not be expected to support the test of real speed. Space could economically only be obtained by a reduction of the base area of all buildings. To stimulate building activity compensation should be given in the form of increased volume or floor space vertically disposed on a reduced base. No payments of money should be permitted or necessary. The present London fire code would soon be archaic in an incombustible city. New York has not yet burnt down. "The subsoil of London," declared the lecturer, "has already been calculated to support loads developed up to 280 or even 300 ft. heights of the light, cheap, widely spaced buildings of the future. Such buildings would be completely rebuilt or reconditioned every 10 to 15 years, or risk absolute obsolescence. Even if zoning angles were taken from ground level and directly from the limits of the site, buildings, while growing prodigiously in height, would be forced back into conical form from the present building lines. The proscribing of 'ceilings' will stultify real growth in London. Mr. Morrison will be blocked in his attempts to improve London until he can plan through legal enactments which will alter the present almost archæological controls on building bulk and construction. Sir Charles Bressey can at present only obtain space for roads by paying heavy compensation to widen existing lines. The opposition to the extension of Western-avenue through to Paddington is an example. Selfridges already demonstrates the tendency towards the building block of the future. Within such a great site by-law proposals as outlined above are possible. The accompanying suppression of intermediate streets would further simplify the problem of slow-moving traffic. Since accidents cost us an average of £130 each, this would result in no small economy for us all. Eliminate most of the traffic lights now employed to modify the present intolerable conditions, and the saving is many times further enhanced.

"Not till every building, shop or office parks its own vehicles will streets operate with reasonable efficiency. The future London will probably be raised one or even two stories above ground—even if it does not go underground altogether with the tubes. The ground floor would be allocated to garaging and the despatch and delivery of goods; the first floor to storage. Pedestrian traffic would pass at second-floor level, where all shopping and business would be carried on. Pavements would be completely enclosed if external to the buildings. Bourne and Hollingsworth are even now making a first step in this direction. Some day people may walk on top of and not below such a canopy. Alternatively, the great arcade at Milan may be the type of large store of the future. No reasonable person would shop from a wet pavement if they could use a warm, air-conditioned, artificially sunlit building in which to make their purchases."

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

SIR KINGSLEY WOOD, the Minister of Health, spoke on Friday last at the opening session of the Conference of the National Housing and Town Planning Council, which was held at Scarborough from Friday, November 29, to Monday, December 2. The speaker said that since the War about 12,500,000 people had been enabled to secure better housing accommodation. Small houses to let at low rents were now being erected at a higher rate than ever before. Slum clearance was now actively proceeding, and already 280,000 slum dwellers had been given new and healthy homes. The facts justified the hope that the completion of the attack on the slums would be successfully accomplished, in all but a few towns, by 1938. The new campaign against overcrowding had just been launched, and he believed it would be equally successful.

As regards town and country planning, we should in all our building avoid disorderly development and the destruction of beauty. Some 18,000,000 odd acres—nearly half the total acreage of England and Wales—were the subject of resolutions to prepare planning schemes, and therefore under interim development control. But much remained to be done, and it must be done on practical lines. Zoning, reservations of open spaces and road programmes properly conceived were at any rate practical concrete measures. What we really wanted to achieve was the preservation of the countryside, the prohibition of scattered, straggling, ugly buildings over the face of the country, and in some cases the prohibition of building altogether over some downs and hills and valleys. It would be a good thing if all authorities with undeveloped rural land in their areas which might be threatened would at once begin discussing with the owners the best measures for its preservation. He would also like to see a better taste in some suburban development. It was here that we often could, with advantage, avail ourselves of the good offices of skilled architects and surveyors, and he hoped planning authorities would exercise their powers in this important connection.

THE RATING OF EMPTY PROPERTIES.

FROM a memorandum on this subject issued by the Council of the Auctioneers' and Estate Agents' Institute of the United Kingdom we take the following points:—

It is common knowledge that the London County Council is submitting proposals to Parliament having for their object the rating of unoccupied or empty property, and that the amount of such rate shall be in the neighbourhood of 25 per cent. of the general rate.

The principle of rating from the time of Queen Elizabeth down to the present time has provided that rates are a liability for which the occupier or inhabitant of the district concerned is responsible. There is no variation from this national principle in the assessment for local rates, and in those cases where property of any kind or class is empty, and where there is no beneficial occupation, no rates have been payable, because there is no person from whom the money can be demanded. . . .

A suggestion, therefore, to rate empty property would be a suggestion to alter the whole of the principle and basis of rating, and instead of rating individuals according to their "ability to pay," the proposal now to be submitted involves the suggestion that persons shall be rated for local rates in respect of something from which they are obtaining no income, and by reason of the fact that they possess a particular class of property, irrespective of the fact whether or no that property is productive or not.

It is suggested that the following effects of the rating of empty property merit serious consideration, before such a step in rating is taken. First, it is suggested that the intention of rating empty property is the necessity for obtaining a fresh source of revenue for rates, and, alternatively, that the result of submitting empty property to the imposition of a rate would be to force the owners of empty properties to bring them immediately into productive capacity.

With regard to the first, the obtaining of fresh income, it is suggested that the desired result will not be obtained. If the burden is placed at such a figure as to become material in forcing a property into the market, it is submitted that the result will be that a low rent will be obtained for the property, because the tendency in such a condition will be to accept the first offer received, without regard to the rents generally obtaining in the district. The result of accepting a low rent for that property will have a depreciating effect upon the remainder of the property in the district, and the final result will be a general drop in rents, in the particular district concerned, below the proper economic value, and consequential lowering of the basis of assessment, and the probable increase in the poundage.

The next result from this will be depreciation in capital value. The general security of mortgages will be affected. The results from this will be that the decrease in capital value will create a drop in Death Duties, and the depreciation in rental will cause a loss in Schedule "A" Income Tax.

All these matters, while negligible when considered with reference to the empty properties, will become a serious question when applied to property generally in the district. . . . It might be alleged that owners of empty properties are people who are holding their property up to obtain an excessive price, and are thereby casting an undue burden on their neighbours. It would be idle to state that such a position does not exist, but we are of opinion that if statistics could be available upon this matter, the proportion of properties held up on this account would be found to be very small.

After careful consideration of the subject, this Council is of opinion that there is no need for a change in the basic principle of rating, and it desires to express the hope that if and when a Bill is submitted to Parliament for the rating of empty properties it will not be given a Second Reading.

THE STANDARD METHOD OF MEASUREMENT

A SUMMARY OF ALTERATIONS.—III.

We have published in our last two issues a number of summaries of various sections of the Standard Method of Measurement prepared by the quantity surveyor members of the Joint Committee on Methods of Measurement, and read by their authors before the Quantity Surveyors' Section of the Chartered Surveyors' Institution on November 20. The trades dealt with in our issue for November 22 were "Excavator," "Concretor," "Piling" and "Bricklayer." The issue for November 29 dealt with "Drainlayer," "Asphalter," "Pavior," "Mason," "Slating and Roof Tiling," "Glazier," "Painter" and "Steel and Iron Worker." We now conclude with the following sections :

CARPENTER, JOINER AND IRONMONGER.

(By Mr. Henry Vale.)

As a comparison between the Second and Third Editions of the "Standard Method of Measurement" will readily show the various amendments, it has been thought advisable to confine these notes mainly to the reasons for the alterations. It is probable that some of these alterations and additions have already been adopted by surveyors in many parts of the country; indeed, the many requests for some of them tend to prove this.

In considering the Carpenter, Joiner and Ironmonger section it will be noticed that generally there is a tendency to measure items to feet "run" in lieu of "superficial." This occurs in the cases of centres, soffits of eaves, window-boards, etc., and there is no doubt that this revision will tend to greater accuracy in estimating. When one remembers the time when door frames were measured per foot cube, and many items, no matter their width, grouped in feet super, it will be realised what advances have been made in the last half-century in getting down to the measurement of actual detail and not depending upon the law of average for one item to correct another.

It will be noticed also that generally, with the exception of felt and wood-block floors, measurement in "yards" is dropped in favour of "squares" or "feet"—this will simplify the work of the estimator, as timber is not sold in "yards." Owing to a certain amount of vagueness and misuse, the old descriptions of "flat sweep" and "quick sweep" have disappeared, and the radius should now be stated wherever possible.

The chief alteration in the "formwork" has been to transfer it to follow immediately after the concrete, with an amendment that it should be measured in "yards" to bring the method into line with that of the Institution of Civil Engineers and the northern custom. Whilst this seems in contradiction to what has just been said about timber not being sold in "yards," it must be borne in mind that in the case of "formwork" it is largely a question of labour and use and waste only.

The clauses referring to centering have been altered considerably, that for vaulting being measured in feet "superficial," while soffits under 12 in. wide are to be given in feet "run." It will be realised that a centre for an arch with a narrow soffit can often be made of one rib only, whereas a wider soffit may need two or more ribs and laggings. This alteration should help the estimator, and will bring the measuring of centres into line with the method already adopted by many surveyors. The centres to segmental, semi-circular and other circular arches and soffits are to be enumerated, the idea being that the contractor may know the number to any particular span and rise so that he can ascertain more clearly the value of the item and the possibility of using a centre more than once, a very important matter in a large building with a lot of repetition. Temporary supports to projecting cornices and horizontal members are to be given, while templets required for circular brickwork are to be enumerated and described unless given with the item.

With regard to timber generally, an effort has been made to dispense with the word "framed," which was sometimes treated very vaguely and was often used where no framing was involved. It was therefore decided that the items of timbers shall be classified under different headings, and that any work in those various classifications shall include all labours, cuttings, notchings, halving to other timber, mortising, tenoning and wedging. As an instance, in the old method an item might be given as "fir framed in floor joists," when there might be a lot of trimmings or none at all; now it will be described as "fir in floor joists," and the trimmings enumerated and described.

A definite request was made by the Midland Federation that trimmings for openings should be given, and this request has been met by this alteration. This should certainly tend to more accurate estimating. Where "framing" is actually required—such as "roof principals"—the estimator will know this from the classification of the particular item; and having to include all labours, etc., will price accordingly. Another important alteration is that hips and valleys shall be measured in feet "run" instead of "cube," while the description may include cutting ends of rafters against same, stating the spacing, or this labour may be given separately. In the old method, when hips and valleys were given cube and rafters were given framed, there were no means of ascertaining the extent of these special labours.

It will be noticed in dealing with boardings and firrings to flats that if the firrings are over 2 in. average depth they will be given separately in feet run, stating the thickness and average depth. This is undoubtedly an improvement, as it seems scarcely fair to ask the builder to include and price firrings of considerable size with the boarding; probably a survival of the time when floor-boards and joists were taken together.

With regard to the "Joiner," a provision has been made that, in addition to the kind of wood required being described, each kind shall be kept separate under special headings. This is very necessary and should save much confusion—and possibly heartburning—as more than one case is known where a builder has had to supply hardwood at the price of softwood as a result of not having observed a "change-over" in the description of the quantities, and who can say how many jobs have been lost by contractors who—often burning the midnight oil—have continued to price as "oak" items which had reverted to "deal" in the bill.

In reply to numerous requests for some more definite description of the term "moulded," it was decided that, with certain exceptions, when the girth of a mould exceeds 2½ in., the girth shall be stated. This must help to arrive at the true value, as, for instance, an 11-in. "moulded" skirting may have a mould of 2 in. girth or 10 in. girth, and one would be of about double the value of the other, although heretofore they were described alike. The same applies, of course, to all other moulded work. With regard to mitres, etc., it was felt that in many classes of work it was unnecessary to give these and other labours to small sections of softwood joinery, especially as these small labours are often not priced by the builder, so that it was decided that these may be included with the item when the section does not exceed 6 sq. in.

A new item of hanging and fitting casements and fanlights will be noticed. It was felt that the time expended in fitting and hanging casements was such as to ask for a special item to be given, so that the contractors should have an opportunity of estimating more accurately where part of the casements in a window were hung and part fixed. With regard to cased frames and sashes, requests were received from the London Branch of the National Federation of Building Trade Employers and other bodies that the hanging of sashes should be given as a separate item. This may be considered revolutionary, and, of course, an estimator who has been in the habit of pricing ordinary deal-cased frames and sashes hung with cords may be able to spread the cost of the pulleys, cords and weights over the whole of the superficial area of the window. In these days, however, where special or patent cords or chains are often used with special attachments and often ball-bearing or other expensive pulleys, it must be difficult, if not impossible, to spread the cost of these articles over the windows, especially when they do not apply to the whole measurement given. For instance, in the case of a three-light bay window, the middle sashes only may be fitted to hang. It must surely tend to accuracy if the whole of that bay window is first measured as deal-cased frames and sashes in three-light bay windows, and an extra item given for fitting and hanging a pair of sashes containing so many feet with the necessary chains, weights and attachments. It is felt that items such as these, although involving more work for the surveyor, will tend to greater accuracy in valuing and pricing, and as such will meet with the approval of the profession and the industry.

An item has been inserted describing the methods of dealing with linings of insulating material, which is in much more general use now than when the previous edition was issued. It will be noticed also that the word "dwarf," which was in general use, has now been abandoned in favour of stating the actual height

The alteration in the method of measuring panelled-wall linings was in response to a general request. Three separate requests from different branches led the Committee to define the description of doors, so that when a detail shows unusual widths of rail, etc., these should be specially mentioned.

Among the minor alterations in joiners' work it will be found that it is laid down that door frames are to be kept separate from window frames. The advantage of this is obvious, owing to the varying lengths and the greater number of framings in window frames compared with door frames. It will also be noticed that instead of the measurement of architraves including two mitres to each set, these have now to be enumerated where the architrave is in hardwood or the section exceeds 6 in. in softwood. This undoubtedly will be helpful to the estimator, as the number of mitres depends on the size of the door, and what was previously partly guesswork will now be converted into definite information. The alteration to the methods of measuring cupboard fronts was to comply with the unanimous request from the different federations to bring it into line with what had already become the general practice. The method of describing ironmongery has been altered to meet present conditions. It has been decided when it is not of ordinary stock pattern to insert a provisional sum for ironmongery and not to trust to a description for the estimator to price, and it has been arranged that the provisional sum shall include for any special screws that may be required.

Let us hope that our efforts have resulted in the "survival of the fittest," and, if not the last word in efficiency, they may at any rate form stepping-stones from which we may rise to still better things.

PLUMBER, ETC.

(By Mr. R. H. Harris.)

The revisions made in these trades are not very revolutionary, and will cause surveyors little trouble.

It is now no longer necessary to state the substance of the lead, even if under 4 lb. Additional classifications are given for damp-

courses and leadwork in connection with hollow walls. Bossed angles to flashings, gutters, etc. (items which have seldom been measured by surveyors), need not now be enumerated. The intention is that the classification of leadwork shall include all the ordinary labours necessary in laying lead of that class. An improvement is made in the grouping up of the items to be measured in feet run, and in doing so the extra labour in dressing lead over surfaces which are not flat (such as over pantiles, corrugated iron, etc.) is mentioned. It should be noted that the substance of the lead must be stated in dressing lead over glass, glazing bars, corrugated-surface mouldings, etc.

Rain-water Goods.—As these are usually fixed by the plumber it was considered advisable to bring them into this trade. The method of measurement is not altered, but it is now made clear that the lineal measurements should be taken over all bends, junctions, etc. Purpose—cast pipes or gutters must be kept separate, but it is not necessary to mention "patterns." As some surveyors appear to have had difficulty in describing the sizes of pipes and gutters, the manufacturers' custom has been stated. It is to be hoped that with increasing standardisation this will soon be unnecessary. Standard pattern straps, collars, holderbats, etc., should be included in the description of the fixing of pipes, and need not be enumerated. Similarly, standard brackets for eaves gutters should be included in the description of the fixing of the gutters. Reference is now made to rain-water goods in asbestos-cement and other materials, the methods of measurement for cast-iron goods applying.

Internal Plumber.—Lead Pipes.—Flush pipes must now be enumerated. Bends in short lengths of pipe (under 1½ in. diameter) need not now be measured.

Connections to Mains.—Local authorities and water companies in the various localities have differing methods of dealing with connections to mains, and the builder may be required to do a portion of the work (such as digging the trench, laying in the pipes, etc.), and this work should be enumerated and described. The amounts payable to the supply company and the local authority for their portion of the work should be stated. If definite information is not obtainable a provisional sum should be given.

Wrot-Iron Pipes.—Pipes in lengths under 4 ft. need not now be enumerated, but must be described as "in short lengths" in the same way as lead pipes.

Cast-Iron Pipes.—The method of measurement is now made consistent with that for rain-water pipes, and the whole of the clause dealing with these has been elaborated to cover items which were usually measured although not previously mentioned.

Zinc, Copper, etc.—There are no alterations in the methods of measurement, but the grouping of the clauses has been improved.

Gas and Water Mains.—These are not specifically mentioned in the document as it was considered that they are engineering works. Surveyors, if called upon to measure these in conjunction with building works, will have no difficulty in applying the methods described for "iron drains."

PLASTERER.

(By Mr. E. C. Harris.)

In this trade several inconsistencies were noticed in the former edition. For instance, the unit of measurement was not referred to for plain plastering, and though our predecessors may have assumed that the yard superficial was generally accepted, no standard method can be said to be complete without a simple statement to this effect, hence *Clause* 1 (*f*) of the new edition. Furthermore, it has been found desirable to define the term frequently used by surveyors as "plain face" (see *Clause* 1 (*b*)). The Joint Committee have usually avoided giving definitions, leaving these to works on building construction, but where terms have been a matter of controversy, it is believed to be an advantage to clear up the misunderstanding.

Clause 1 (*d*) permits an alternative method of dealing with hacking to form key, as it is frequently more convenient to measure this separately where only a small portion of the surface covered by plaster requires to be so treated.

Clause 1 further goes on to complete the units of measurement by including the rule for detached surfaces and narrow widths, and it also defines, in *Clause* 1 (*j*), those small areas which will not be the subject of deduction.

The unit of measurement for metal lathing (*Clause* 3) is changed from feet to yards, except, of course, narrow widths, which shall be given in feet superficial.

Clause 4 (ceilings) introduces a new principle, pressed for, we believe rightly, by the trade; that where a ceiling is at a greater height than 11 ft. from the floor, it shall be separated from the general ceiling plastering, and the height stated in stages of 5 ft. This, of course, enables the estimator to include for the extra staging or scaffolding required.

Clause 4 (*g*) clearly defines the rule for the measurement of plastering at cornices, whether bracketed or otherwise.

Clause 5 is the old *Clause* 3, but the unit of measurement is stated, which was missing originally.

Clause 6 (cornices) clears up a question frequently asked as to the line on which cornices should be measured, whether bracketed or otherwise. In other respects there is little change from the old edition.

Clause 11 only adds the unit of measurement.

Wall plastering (*Clause* 14) involves little change, except to define the vertical dimensions rather more clearly, and gives an alternative in 14 (*f*) for measurement of plastering on old walls on the same principle as plastering generally in *Clause* 1 (*d*).

Clause 14 (*g*) provides for plastering lined to imitate stone, which should be given separately and so described.

It should be noted that *Clause* 18 calls for the measurement of a numbered item of "make-good plastering around metal sash frames" where this labour occurs.

By the introduction of the trade "Pavior," granolithic and cement pavings cease to appear in "Plasterer," and *Clause* 19 is devoted to the floated beds for these and similar materials.

Fibrous Plaster.—The only variations in this section relate to the separate measurement of work in other trades (see *Clause* 21), and *Clause* 22 (Models) has been more carefully described. In actual practice such models are generally the subject of a provisional sum, but the rule is necessary in those cases where no such course is adopted.

In *Clause* 33 (wall tiling) the unit of measurement is stated which was absent originally, but floor tiling is removed to the "Pavior."

In dealing with this trade the Joint Committee received the valuable assistance of representatives of the Master Plasterers' Associations, and have every reason to believe that the rules now laid down are acceptable to members of those bodies.

PAPER-HANGER.

(By Rev. S. L. Porter.)

In the case of lining paper an allowance of one piece in eight is to be made for waste. Corners (other than mitres) to borders and motifs to be enumerated. Paragraph 5 of *Clause 8* of the old volume has been varied somewhat by *Clause 9* (*f*) of the new edition. Canvassing in strips over joints is now to be included with the description of the hanging.

(*Concluded.*)

An Appointment.

At a recent meeting of the Dean and Chapter of Hereford, Mr. W. Ellery Anderson, L.R.I.B.A., of Cheltenham, was appointed consulting architect for Hereford Cathedral.

SOCIETIES AND INSTITUTIONS

THE ARCHITECTURE OF OXFORD.

The Slade Professor's Lecture.

The Slade Professor (Mr. H. S. Goodhart-Rendel) gave a lecture on "Oxford Architecture" at the Ashmolean Museum on November 29.

He said he was not insensible to the elegance of the Radcliffe Camera, and appreciated the elegant contour of the dome, but the lowness of the drum made an unfavourable impression on him, and where others found grandeur he found heaviness. The building was, however, highly characteristic of the period in which it was built, as it was pedantic and elegant but slightly unreal.

The Professor said that Magdalen Tower fared badly at the hands of artists, who invariably made it appear top-heavy, whereas, in reality, it was practically faultless. The tower, he added, was a masterpiece of empiric mediæval type.

The lecturer praised Queen's College, which he said was one of the greatest treasures of Oxford architecture.

The Examination Schools were criticised from many aspects. Reference was made to the singularity of the great hall, leading into narrow corridors, and to the difficulty the visitor had in finding his way about the building.

ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND.

At the monthly meeting of the Council of the Royal Incorporation of Architects in Scotland, held at 15, Rutland-square, Edinburgh, the Silver Medal and Vellum Certificates gained by the various prizewinners for session 1934-35 were handed over to them by Mr. William B. Whitie, F.R.I.B.A., President. The following members were elected:—Messrs. J. Maclennan, Aberdeen; G. C. Young, Perth; W. W. Young, Brechin, and J. Wilson, Glasgow, as Fellows; Miss I. M. Gordon, Aberdeen; Messrs. D. S. Soutar, Broughty Ferry; William Kinloch, Dundee; John Easton, J. D. M. Thomson, and Arthur Rennie, Glasgow, as Associates; Messrs. G. W. Bowes, Aberdeen; J. N. Lockerbie, and R. W. Johnston, Edinburgh, and D. C. Colahan, Ayr, as Students.

SOUTH WALES ARCHITECTS AND BUILDERS.

Modern Churches.

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch), Mr. Edward Maufe, M.A., F.R.I.B.A., gave a lecture on "Modern Churches" in the lecture theatre of the Engineers' Institute, Cardiff, on Thursday, November 21. Mr. E. A. Ward presided over a large and representative audience.

The lecturer showed lantern illustrations of a large number of churches and dealt critically with each, first taking a series of Continental examples, and then passing on to a consideration of English churches from the time of Bodley to the present day. He made it clear that simplicity and a quiet restfulness are qualities of outstanding importance in ecclesiastical architecture, and that the absence of these qualities in some Continental examples is not made up for by brilliant constructional achievements. The audience was particularly interested in the lecturer's explanation of a series of slides showing the design for his proposed cathedral at Guildford.

A hearty vote of thanks to the lecturer was passed on the proposal of Mr. T. Alwyn Lloyd, P.P.T.P.I., seconded by Mr. C. H. Miles. In responding, Mr. Maufe paid tribute to the work of the Welsh School of Architecture, which he had inspected before coming to the lecture hall, and expressed his regret that the new railway station at Cardiff gave such a poor welcome to visitors.

PUBLIC WORKS CONGRESS

We give below extracts from two papers, read before this Congress, held recently at the Royal Agricultural Hall, N.

THE HOUSING QUESTION.

Sir Herbert Humphries, C.B.E., M.Inst. C.E. (late City Engineer of Birmingham), in the course of a paper on this subject, dealt mainly with the schemes of the Birmingham Corporation. He said that, having in mind knowledge of the views of the working-class tenants in regard to housing, the Corporation laid out practically all the housing schemes on the principle of the provision of individual houses. One exception was made when 180 three-story tenements were built as an experiment. They were not built in a very pleasant locality, and they had not been liked as permanent residences. Another exception was the building of what were called maisonettes, really two-storied flats. These had been very successful. Noise from their use was eliminated as far as possible. There were entirely separate entrances to each flat, so that there were no difficulties in regard to faults at the entrance, etc., and each flat had its own small garden. As far as the desire for an individual house was concerned, the maisonette did seem to be "the next best thing." In one case of provision for rehousing former slum-dwellers, 175 such maisonettes were built surrounding large courtyards used for playing spaces and drying-grounds for clothes, together with accommodation for bicycles and perambulators. Each dwelling had its own little garden-piece, and it was astonishing what was done with them. Altogether it was a very pleasant rehousing effort.

The importance of providing well-planned houses with elevations having simple and pleasing lines, and with properly arranged variety of design and grouping, had been recognised, with the result that many of the housing estates were exceedingly pleasant in appearance. All the Birmingham houses had been erected strictly in accordance with the town planning schemes which were prepared for the future lay-out of the suburban and rural areas within the City. When the first housing schemes were undertaken they were small in extent and, generally speaking, were undertaken upon sites in what might be called the inner suburbs; but as these became rapidly filled, it was necessary to go farther afield, and it was found advantageous to acquire very large areas of land and carry out the building of houses by large contracts ranging from 500 to 2,000. These housing estates were chosen for their natural advantages of aspect and favourable topographical features. The means of access to and from the City and its industrial areas were carefully considered, and the importance of access to arterial roads in this connection was not forgotten, particularly with the view of providing facilities for fast and cheap transport.

Four thousand five hundred acres of land, or about seven square miles, had been acquired for housing. The estates had been very carefully planned with the view of providing convenience, spaciousness and general utility, in addition to recreation. The roads had been laid out with ample widths, but with narrow carriageways where vehicular traffic would be small. All the principal roads had been laid out as road parkways. Plenty of culs-de-sacs, with spaces at their ends which the houses surrounded, had been provided. These were very pleasant places to live in; they were away from vehicular traffic, and they provided an open space safe for the smallest children to play in. Care had been taken in connection with the lay-out of the housing estates to leave space for recreation grounds. Where possible they took the form of a wide parkway which not only provided playing spaces but also promenades, etc.

An experiment had been tried with road design which eliminated all fencing between the road and the houses, the road boundary being merely marked by a low coping, and adjoining the houses a path was constructed. Between this and the road the land was laid out as shrubberies. This gave a most pleasant effect, and so far it had turned out to be satisfactory in every way, for, contrary to many opinions, the shrubs, etc., had not been damaged or interfered with. The whole object of the road designs had been to give the houses the best possible aspect, and also to provide the estate with an air of great spaciousness and a pleasant appearance.

COMMUNITY CENTRES.

In planning the estates, spaces had been reserved for what were known as "civic" or "community" centres. Shopping centres were laid out, and the intention was to set up civic buildings such as swimming baths, libraries, welfare centres, and so on. Provision was also made for sites for schools, churches, mission halls, doctors' residences, police buildings, etc. The roads were planted with trees and grass, and the houses were laid out at a density not exceeding 12 to the acre. The laying-out of large estates, which lay from three to six miles from the City centre, was a gigantic task; many miles of roads had to be constructed, and sewerage and drainage had to be provided; the other services, such as water, gas, electricity, etc., had had to be brought to the estate and installed throughout. There must be proper cheap transport arrangements not only to and through the City, but also to connect housing centres with each other and with the industrial areas.

When the Birmingham Corporation, in common with other towns, originally began to build houses, they adopted a rather larger house than they did later. This larger house was built during the progress of the work under the 1919 Act, but later, under the following Acts, it was found necessary, to meet the conditions required by those Acts, to provide a smaller-sized and cheaper house if the rent and loss to the Corporation were to be kept at reasonable figures, and much time and thought was given to planning houses which would satisfy the necessary requirements as to accommodation, convenience in use, adequate light and air, and pleasing appearance. Satisfactory plans were adopted for houses of several types, such as parlour houses, which had a floor area of 914 ft. each, and non-parlour houses of 812 ft. area each.

The parlour type consisted of a sitting-room or parlour, about 11 ft. by 11 ft., often increased in size by the provision of a projecting window; a living-room, about 15 ft. by 11 ft.; and a small scullery, 7 ft. by 6 ft., together with three bedrooms and bathroom and lavatory, with hot and cold water supply. The living-room was provided with a combination grate, so that it could be used for cooking as well as heating. All the houses were provided with gas for heating and cooking, and electricity for lighting. They were also provided with dressers and cupboards, and, of course, each house had the usual larder and coal-store, and was made as labour-saving as reasonably possible. The ordinary non-parlour type house had a living-room, 14 ft. by 14 ft., a scullery, 9 ft. 6 in. by 7 ft. 6 in., a combined bathroom and lavatory on the ground floor, and a larder, coal-store and perambulator space, together with three bedrooms. The hot-water supply to the bathroom and sink had hitherto been provided by a boiler, generally heated by gas, although now that method was replaced by an ordinary hot-water supply from a boiler at the back of the living-room grate. The Corporation, finding that there was an insistent demand for an even cheaper house, had built a great number of smaller non-parlour type houses, the floor area of which was only 652 ft. In this type of house a living-room, 14 ft. or 13 ft. 6 in. by 13 ft., was obtained, and the other parts of the house provided similar accommodation to the ordinary non-parlour house, but, of course, smaller in size. These houses had either three or two bedrooms.

The cost of the parlour type houses, which averaged from £900 to £1,000 in 1920, was £650 in 1922, and its price in 1933 was reduced to £393. The ordinary non-parlour type house in 1922 cost £450, and *now* with an area of 760 super ft. it cost £300. The smaller non-parlour type houses cost £276 for the three-bedroom type, and £261 for the two-bedroom type.

In considering the question of rehousing, the City Council decided that, without pronouncing a final decision as to the best methods of rehousing persons displaced, schemes should be brought forward for acquiring sites in the central areas of the City and erecting thereon maisonettes and small non-parlour type houses.

The City Council later had alternative schemes for re-housing upon one costly site near the central area, the three suggestions being based on the following densities :—

Flat dwellings	...	47 to the acre
Small houses	...	24 " "
Maisonettes	...	30 " "

it being understood that the Ministry would sanction the erection of small houses at the density of 20 or, in special cases, 24 to the acre, the three-bedroom maisonettes at a like density, while it is considered probable that two-bedroom maisonettes would be sanctioned at a density of 30 to the acre.

From the figures then prepared it was apparent that, despite the fact that flats could provide from two to three times the number of dwellings (according to the provisions made for amenities) than could be provided by self-contained houses on the same area, yet from a financial point of view, owing to the higher cost of the construction of flats as compared with that of houses, there was little advantage in building flat dwellings, as the higher cost of construction of flats more than counter-balanced the higher cost per dwelling for land for houses, and that, for accommodation equivalent to various types of houses and maisonettes, there was but little, if any, advantage as regards the rents of flats, even with the increased amount of subsidy. Especially was this so if the flats were to have amenities such as are referred to above. The only direct advantage to be gained by building flats on a particular site was the housing of a great number of people upon it.

ÆSTHETIC BRIDGE DESIGN.

"A Philosophy of Aesthetic Bridge Design" was the title of an interesting, closely reasoned and well-illustrated paper by Mr. Ian G. Macdonald, B.Sc. (Edin.), Assoc.M.Inst.C.E., who said that the essential function of the designer of road bridges was to provide structures which would enable road users to negotiate obstacles in safety and with a minimum of inconvenience. We owed the existence of innumerable bridges of great charm, however, to the fact that the majority of bridge-builders, from the dawn of the art down to the days of Telford, Brunel, Rennie and Stephenson, were not content to confine their efforts to the fulfilment of that function alone, but devoted some appreciable part of their energy to the exercise of their right, as responsible craftsmen, to endow their structures with as many as might be of those qualities which would make them pleasing to look upon; the qualities which, for instance, were possessed by the Pont du Gards, Twizel Bridge, the Menai Suspension and Britannia Bridges. The existence of that right was almost entirely overlooked during the nineteenth century, when bridge-builders were, for the most part, engrossed in the process of transforming their craft into a science, and it was not until within the last decade or two that it again became the rule rather than the exception to give serious consideration to the appearance of a new bridge. The public demand that these should not only function well but look well, had now grown so insistent that it was no exaggeration to say that what was originally merely a right was now regarded as a duty, and that the bridge-engineer of to-day had a second function to perform, that second function being

the designing of structures so that these should, at the least, be inoffensive to the eye, and so that they further should, as far as it was within his power to make them do so, add to the amenities of the localities in which they were set.

Other papers read at the Congress included the following: "Greater London Drainage Report, 1935," Mr. G. T. Cotterell, M.Inst.C.E.; "Public Lighting," by Mr. E. C. Lennox, A.M.I.E.E.; "Gas Utilisation in Modern Buildings," by F. M. H. Taylor, M.I.H.V.E.; "Coke Utilisation in Modern Buildings," by Mr. W. L. Boon, M.I.Mech.E.; "Promotion of Road Safety by Local Authorities," by Mr. J. R. Howard Roberts; "Composite Tee-beam Bridges," by Mr. G. D. Balsille, M.I.E.Aust.; "Design and Application of Syphon-Spillways," by Mr. C. D. C. Braine, A.M.Inst.C.E.; "Population and Water Supplies," by Mr. S. Vere Pearson, M.D.; "Purification of Water by Ozone," by Lt.-Col. G. Ewart Morgans, M.Inst.C.E.; "Collection of House Refuse at the Dwelling House," by Mr. H. W. Reeves, A.M.Inst.P.C.; "Relation of Public Cleansing to Other Essential Services," by Mr. R. G. Baxter, A.M.Inst.C.E.; "Activated Sludge Research on the Practical Scale," by W. Watson, Ph.D.; "Sewage Purification and Sludge Digestion at Coatvices," by Mr. R. G. Baxter, A.M.Inst.C.E.; Design of Retaining Walls," by Mr. Granville Berry, A.M.Inst.C.E.; "Points in the Design of Reinforced Concrete Works," by Mr. Granville Berry," A.M.Inst.C.E.; "Strength of Sewage," by Messrs. M. Lovett, B.Sc., and J. H. Garner, B.Sc.; "Small Holdings and Emigration," by Mr. T. G. Ellis, F.S.I.; "Land Drainage Act, 1930, and its Effect on Small Holdings," by Mr. H. L. Samson, F.S.I.; and "Private Street Works," by Mr. A. R. Hanson, A.M.Inst.M. & Cy.E.

THE 1935 FORM OF BUILDING SUB-CONTRACT—X

By W. T. CRESWELL, K.C., Author of "The 1931 Form of Building Contract," etc.

Clause 12.—Water, Lighting, etc.

WHEN the principal contract provides that the contractor is to supply at his own expense water, lighting and attendance, he is to do these things for the purpose of the sub-contract works also. The sub-contractor, for the same purposes, is to have the use of such scaffolding erected by the contractor for his own use "as shall remain erected during the course of the execution of the sub-contract works." This does not make clear what is presumably the intention; that is, that the contractor shall allow to remain erected such scaffolding as the sub-contractor needs for and until the completion of the sub-contract works. But the obligation is put upon the sub-contractor to satisfy himself "at all times and from time to time" that the scaffolding he uses is "fit and proper" to be used by him, and he is to take the sole responsibility for all accidents that may result from "the condition of such scaffolding during and caused by the use thereof by himself or any person in his employ."

It should be clearly understood that if the principal contract does not expressly provide that the contractor is to provide water, lighting, etc., as required for the works, then, in the absence of any expressed intention as between the contractor and sub-contractor, it is implied that the sub-contractor will provide these things as he requires them for his own sub-contract works. Before he decides whether such provision is or is not made in the principal contract for water, watching, lighting, etc., the sub-contractor should make careful reference to the preliminaries in the specification of the principal contract, or, if bills of quantities are provided as contract documents, then to the Preliminary Bill thereof, as these will contain full information or show that no such provision is stipulated.

In general, it must be remembered that bills of quantities must include every item likely to entail any cost whatever to the contractor, and the Standard Method of Measurement of Building Works provides that all such items must be "written up" in the Preliminary Bill.

Clause 13.—Interference with Plant, etc.

By sub-clause (*a*) the sub-contractor must not, either himself or by his servants or agents, misuse or interfere with the contractor's plant, ways, scaffolds, temporary works, guards or appliances; or, in fact, do any act whatsoever whereby the contractor "shall be or may become penalised under any building regulation, by-law, or any Statute or Statutory Rule or Order whatsoever." And by sub-clause (*b*) the contractor enters into similar undertakings with the sub-contractor as to plant, etc., which is the property of the sub-contractor. But these undertakings are modified in so far as such use and interference are necessary in order that the contractor may comply with his duties under the principal contract. Failure to comply with these requirements is a breach of the contract.

In this connection it should be noted that under clause 23 of the 1931 Form of Building Contract, upon determination of the contract by the contractor for any legitimate reason, the contractor shall, with all reasonable despatch, remove from the site all his goods, machinery and plant, and give facilities for his sub-contractors to do the same. Furthermore, the contractor is to be reimbursed by the employer for the reasonable cost of their removal.

Clause 14.—Temporary Workshops, Sheds, etc.

The sub-contractor is to provide and maintain at his own expense (unless otherwise provided for in the principal contract) all temporary workshops, sheds or messrooms required for the use of his workmen and at such spots on the site as the contractor may appoint. The sub-contractor should ascertain for himself whether these workshops, sheds, etc., are provided under the principal contract. The information is usually to be found in the preliminaries of the specification or (when they are provided) in the Preliminary Bill of the Bills of Quantities, and not in the Form of Contract itself.

Clause 15.—Damage to Property of Sub-Contractor.

By clause 15 the sub-contractor indemnifies the contractor against any liability for loss or damage caused to his (the sub-contractor's) plant, tools, tackle, equipment *or other property*; and this indemnity is to extend to accident encountered by any of the sub-contractor's workmen, if such accident results from theft, civil commotion, fire, storm, tempest or explosion.

The burden is laid on the sub-contractor of effecting any insurance as to this indemnity "as to him seems proper."

The words "or other property" would appear to include also any materials the property of the sub-contractor which are on the site of the principal contract works.

It will be remembered that already, by clause 4 (*a*), the contractor is to insure the sub-contract work and materials from loss or damage by fire.

Council Libraries, Purley.

The Coulsdon and Purley Urban District Council, which became its own library authority three months ago, before when the Surrey County Council was the authority, has planned to establish five libraries in the separate wards simultaneously so as to reach approximately 90 per cent. of the population of 50,000 in an area of 11,000 acres. The foundation-stone of the central library building at Purley has now been laid. The architects are Messrs. Gold & Aldridge, 14, Bedford-row, W.C.1.

INQUIRY BUREAU

ANSWERS.

Plaster: Cracking in Ridging.

[ANSWERS TO "C. A. C.," NOVEMBER 29.]

SIR,—The defects which your correspondent describes are almost unbelievable, and I am wondering whether there has been a misprint in his letter.* The presence of cracks at 4 ft. intervals instead of 4 in. intervals might readily be accounted for by a failure to break joint in the lathing at frequent intervals. If the laths are butted in a straight line across the room the continual spring of the floor over is bound to lead to a severe crack following closely the line of this joint. Such a crack would persist, even after the ceiling was re-skimmed. If, however, the cracks of ridges are closer and actually as described by your correspondent, the cause is more uncertain and may be the result of a number of defects both in material and workmanship. It is possible that the lathing has been too widely spaced, as well as that the mix of plaster and the quality of lime has been defective. The use of cement upon timber lath work is somewhat dangerous, owing to quick setting before shrinkages have been finally taken up. Gauging with one of the patent gypsum plasters is the most suitable gauging to adopt.

PLASTER.

[*No. Our correspondent has written 4 in.—ED.]

SIR,—If plastering is on an uneven surface, it is easy for the underlying depressions and projections to reproduce themselves on the finished surface. Two coats are necessary to plaster such a surface. The first coat should be just sufficient to fill up any grooves, etc., to the level of the highest projection, not plastering the surface as a whole. When any unevenness has been corrected, a finish coat of plaster can be applied. It is unwise to attempt to remedy unevenness by a single coat of plaster.

W. E. W.

Cutting Away and Replacing Defective Bricks.

[ANSWER TO "E. F.," NOVEMBER 29.]

SIR,—The estimated cost of such work would depend entirely upon the particular conditions of the job. For instance, if the defective bricks were widely distributed in isolated cases, the cost would be considerably higher than where the defective bricks were concentrated in patches or groups. A competent estimator should be able to arrive at a fair figure by observation upon the job, estimating in his mind the actual time likely to be taken in making good the work and the cost of the materials and plant necessary. For the first item the assistance of an experienced bricklayer would no doubt be helpful.

ESTIMATE.

ILLUSTRATIONS

(*Continued from page* 1022.)

Wornum, F.R.I.B.A., and E. Maxwell Fry, B.Arch., A.R.I.B.A. The competition was divided into two sections, and competitors might enter for one or both. In each section the following premiums were offered: 1st, £100; 2nd, £30; 3rd, £25.

The assessors' awards are as follows:—

Section 1 (design for a timber house, total cost £800): 1st, Mr. Reginald A. Kirby, Student R.I.B.A., 1, Fraser House, Larkhall, S.W.8; 2nd, Mr. E. H. Lockton, Student R.I.B.A., 4, Rose Hill-road, Wandsworth, S.W.18; 3rd, Mr. B. A. Le Mare, A.R.I.B.A., 29, The Drive, Walthamstow, E.17.

Section 2 (design for a week-end timber cottage, total cost £350): 1st, Mr. William Tatton Brown, B.A., A.A. Dip., 6, Bedford-square, W.C.1; 2nd, Mr. Harry Moncrieff, A.R.I.B.A., 9, Victoria-square, Newcastle-on-Tyne; 3rd, Mr. Cameron Kirby, F.R.I.B.A., 1a, Duke-street, Manchester-square, W.1.

The prize-winning plans and perspective drawings will be on exhibition at the Building Centre, 158, New Bond-street, W.1, from January 6 to January 25 inclusive, from 10 a.m. to 6 p.m.; Saturday 10 a.m. to 1 p.m.

THE BUILDING TRADE

BUILDING BY-LAWS—XXIII.

By B. PRICE DAVIES, F.S.I., M.T.P.I.
(Author of "Estimating for Buildings and Public Works.")

Drainage of Lowest Story.

41/45. "(2) *The lowest story of the building shall be at such a level as will allow the construction of a drain or drains sufficient for the effectual drainage of that story;*

"*Provided that this rule shall not apply to so much of the lowest story as comprises a cellar intended for storage only and constructed in a dry soil or so as to be impervious to water.*"

This is a wise precaution, and the possible overloading of a drain or sewer during wet weather should not be overlooked. This makes for back-flow or retarded flow in the drain of a premises.

The water-tight cellar for storage purposes below the level of the drain or sewer is also best avoided, for any water which gets into it, even by means of damaged water service pipe or a leaky water fitting, has to be baled or pumped out.

Sub-soil drainage has bearing upon a letter of good criticism received from a reader in connection with Fig. 56 which appeared on October 18. The diagram indicated a floor which was below the ground level and the cavity was shown extending below the floor. The reader pointed out that the cavity below the ground level could become full of water. This is a possibility which should be borne in mind, but with the drainage of the sub-soil to a level lower than the bottom of the cavity, there is not an ordinary liability of the cavity containing water. Naturally, the filling behind the cavity wall should be of hardcore.

The reader advocated asphalt, and Fig. 57 showed how this could be employed, and without a cavity. The writer favours the cavity for reasons stated in his previous articles dealing with specifications, and he then gave a diagram indicating the use of the double precaution of vertical asphalt and cavity.

Gutters and Down Pipes to be provided.

41/45. (3) *The roof of the building (whether flat or otherwise) shall be so constructed as effectually to drain to suitable and sufficient gutters, shoots, or troughs, which shall be provided for receiving and conveying all water which may fall on the roof and shall be connected with a sufficient number of suitable down-pipes or trunks constructed so as to carry away all such water without causing dampness in any part of any wall or foundation of any building;*

"*Provided that this rule shall not apply to any building, the roof of which is covered with thatch or other similar material, if other proper and sufficient arrangements are made to prevent any water which may fall on the roof from causing dampness in any part of any wall or foundation of the building.*"

This is to avoid a soakage of walls, foundations and sub-soil by roof-water.

Thatch calls for special consideration, for in such a case the rainwater is largely soaked up by the thatch.

The following is a true story. A builder bought some foreign roof tiles from a merchant. After they were fixed on a roof, and following a day of rain, the merchant called around to see how they fared. He asked the builder, "Well, Joe, did you get any water through the roof yesterday?" The builder answered in the negative, and the merchant went into ecstasies of praise for his goods. The builder waited for him to subside and then quietly remarked: "You may be interested to know that although no water went through the roof, there was no water coming through the down-spouts either!"

Possibly this class of roofing tile would come under the exemption of the words "covered with thatch or *similar roofing* materials!"

Before quoting the next by-law, we will deal with the footnote of the title. This is as follows:—

"*In administering this group of by-laws the Council will accept the specifications issued from time to time by the British Standards Institution, but may challenge materials not complying with those specifications. Similarly, in connection with the making of joints, they will accept the methods recommended by the Institute of Plumbers in their specification for the installation of soil, waste, and ventilating pipes, but may challenge any other method.*"

The Institute of Plumbers issued a new Minimum Specification (No. 111) in June, 1935, for "Drainage Work in connection with Buildings."

The inclusion of this footnote is a decided acceptance of the standards quoted, and architects, surveyors and builders will be well advised to specify accordingly.

The drain-pipe of the British Standard Specification is a well-shaped and well-finished pipe. Care should be taken that its structure is satisfactory, for the writer has been obliged to condemn some pipes for this reason.

Good Quality Drain Pipes to be Used.

42/46. "*Every person who shall erect a new building shall, in the construction of every drain other than a sub-soil drain, comply with such of the following rules as are applicable:—*

(1) *The drain shall be constructed of good sound pipes of glazed stoneware, heavy cast iron, or other equally suitable material.*

(2) *The drain shall be of an adequate size and be laid with a proper fall and with suitable water-tight joints.*

(3) *If intended for conveying sewage the drain shall have an internal diameter not less than four inches.*

(4) *The drain shall be properly and suitably supported and protected against injury.*"

(1) It will be seen that this part of the clause asks for "good sound pipes of glazed stoneware, heavy cast-iron or other suitable material."

Generally, glazed stoneware pipes are best underground and cast-iron above ground, while asbestos pipes of water-main section would probably come into consideration for either position.

(2) Falls which are "safe falls" are 1 in 40 for 4 in. pipes, 1 in 60 for 6 in. pipes, and 1 in 90 for 9 in. pipes. In flat districts it is difficult to obtain these, and falls of 1 in 50, 80 and 120 respectively can be allowed.

(3) No pipe for sewage is to be less than 4 in., but surface-water around houses can be carried away in 3-in. socketed pipes. For houses of the three-bedroomed type, a 4-in. drain will carry away the sewage of two houses to the above falls, while a 6-in. drain will carry away the sewage of a score of houses, and these on a Partially Combined Sewerage system.

(4) The drain must be constructed solidly and protected. For stoneware pipes, it may be necessary to lay a concrete bed under them, for the sake of good foundation, or to concrete their haunches for the sake of protecting them from lateral thrust, or again to concrete over them in order to protect them from surface damage. In fields liable to cartage, a cover of three feet of soil is necessary, and in roads, four feet of cover. With less than this, concrete protection is necessary.

Drains through Buildings.

42/46. "(5) *If the drain passes through a building it shall to that extent be constructed of heavy cast iron or other equally suitable metal.*"

Cast-iron pipes, suitably coated, of Class "B" of the British Standard Specification are considered to be suitable for this purpose. They should be jointed just the same as water mains. It should be noted that this is for going "through" and not "under" a building. In this way they are exposed.

Concrete Bed for Drains.

42/46. "(6) (*a*) *If the drain is laid on or in the ground and is constructed of material other than heavy cast iron, it shall, for a distance of at least fifty feet from the building, be laid on a bed of good concrete, unless the nature of the soil renders the precaution unnecessary;*

(*b*) *if the drain is constructed on or in the ground and is constructed of cast iron it shall be suitably protected aginst external corrosion.*"

(6) (*a*) This is to ensure solidity near the building and the avoidance of disturbed joints. In many districts the concrete bed is unnecessary.

Another point of note is to arrange the drains so that the drain trenches do not weaken the foundations of the building (see Fig. 104 in Article XXII, last week). This indicates a dangerous position for both wall and drain, unless the drain and foundations are in rock. If in soil, it would be advisable to timber the trench strongly and concrete up to the point *C*.

The following has been allowed as an addition to this by-law, although not in the writer's instance:—

The trench of every drain which passes within closer proximity than three feet to any wall or building shall be filled up solid with concrete to the level of the foundation of the building.

It is best to avoid such difficulties by keeping the run of drain away from the walls, and letting the branches approach the walls at approximately right angles.

If the case of Fig. 104 were in clay, great difficulty would be experienced. The clay would fracture and the trench might aid in draining away the water of the clay. This would result in the shrinkage of the clay underneath the wall foundation.

(6) (*b*) Protection against corrosion is more essential in some soils than in others. Yet some of us who are acquainted with the internal corrosion of water mains are more concerned with the protection of the inside of the pipe than the outside.

Drains under Buildings.

42/46. "(7) (*a*) *The drain shall not be laid so as to pass under any building except where any other mode of construction is impracticable;*

(*b*) *if the drain is laid so as to pass under any building*

(*i*) *it shall for the whole extent beneath the building be laid in a direct line or if this is impracticable in direct lines;*

(*ii*) *it shall, if laid in the ground [not being undisturbed rock] and constructed of material other than heavy cast iron, be completely embedded in and covered with good and solid concrete at least six inches thick all round;*

(*iii*) *adequate means of access shall be provided for the whole length of the drain beneath the building, and if the drain is not laid on one direct line beneath the building an inspection chamber shall be provided at each change of direction.*"

A drain under a building is not desirable, yet in some cases there is no alternative but to adopt such a course.

(i) There is to be no bend in such a length.

(ii) The words in brackets [ ] are added to the model series by the writer for reasons stated previously in connection with site concrete. The writer accepts a stoneware drain surrounded with concrete in preference to cast iron on account of the possible corrosion of the cast iron.

(iii) If there is a change of direction, an inspection chamber is required. In such a case, a sealed cover is essential, and even then

this would be objectionable in a domestic building.

42/46. "(8) *Every inlet to the drain, not being an inlet provided for the ventilation of the drains, shall be properly trapped.*"

This refers to connection such as yard gullies and w.c.s.

42/46. ["(9) *Adequate and suitable means of access shall be provided to the drain for the purpose of inspection and cleansing.*"]

This has been added to the model series for the sake of having something definite to go on with respect to inspection chambers for rodding purposes where required.

Disconnecting Traps.

43/47. "(1) *Every person who shall erect a new building shall cause every main drain of the building, which empties into a cesspool or other place for the reception of sewage, to be disconnected from the (sewer) cesspool, or other place [not being a sewer] by a suitable trap situated within the curtilage of the building, as far as practicable from the building and as near as practicable to the point at which the drain so empties.*

(2) *He shall provide in connection with such trap proper means of access for cleansing.*

(3) *Provided that this by-law shall not apply so as to require a trap for any drain discharging into the open air.*

(4) *Provided also that where two or more buildings are drained by one combined drain, and the combined drain itself either is disconnected with the (sewer) cesspool, or other place by a suitable trap provided with proper means of access for cleansing, or discharges into the open air, this by-law shall not apply so as to require a trap for a drain joining the combined drain.*"

Note.—Words in parentheses ( ) represent deletions.

The writer does not favour disconnecting traps as between sewers and branch drains, for he has seen too much trouble with them, and also with the fresh-air inlets necessary in consequence. He believes in allowing the ventilating shafts of the drains acting in an indirect way as the means of ventilation for the sewers. That is why the word "sewer" has been deleted from the model series and the words "not being a sewer" added.

On the other hand, disconnecting traps are advisable for yard gulleys, w.c.s, slop-sinks and such fittings, as well as to drains emptying into cesspools.

BOOK REVIEW

Practical Bricklaying. By ADAM HAMMOND. London : The Technical Press, Ltd. Price 2s. 6d.

At one time, outside London and some of the large towns, bricklayers were expected to be capable of building in brick or stone, of laying plain or ornamental tile floors, doing plain internal or external plastering, and of covering in the building with slates or tiles. A bricklayer, a carpenter and a blacksmith might between them carry to a satisfactory completion a cottage, small house or other building of simple character. This little book, which we have read with a great deal of pleasure on account of the memories it recalls, is now in its fourteenth edition, and dates back to that period. Its author endeavoured to instruct the bricklayer of the time in the essentials of these now separate crafts, but the space at his disposal was inadequate, and much that the student of to-day must necessarily know is not dealt with. It has also to be said that some of the methods advocated are unsuitable to the requirements of the present time. But a work of this character does not continue to fill a demand over so long a period without having peculiar merit. There is a good deal of matter in it for the discriminating reader, and the style is very pleasing. Shrewd and observant, the author gives reasons for his preferences, and though the research worker of our time may be a better authority, a perusal of these earlier opinions will at least stimulate thought.

CARPENTERS' HALL LECTURES

PAINT AND PAINTERS' WORK.

THE series of lectures on building construction and sanitation recently given at Carpenters' Hall ended on Wednesday, November 6, with one by Mr. R. L. Roberts, M.A., P.-P.I.O.B., whose subject was "Paint and Painters' Work." The lecturer said that the object of painting, apart from its decorative effect, might be regarded as twofold. Firstly, it was employed to preserve the materials used in a building from atmospheric change, and, secondly, it was used to facilitate the cleaning of the surfaces to which it was applied. The painter should have a thorough knowledge of his materials, though this was less important in these days, when paint was supplied ready mixed and with careful instructions to the user; but it was doubtful whether the results obtained in this way were altogether as good as when the paint was mixed by hand on the job.

The Base.

In oil paints the most important constituent was the base, and the bases most used in building work were white lead, zinc white, red lead and oxide of iron. White lead mixed with about 8 per cent. of linseed oil formed a white pigment. The white lead should be as finely ground as possible. Its covering power exceeded that of any other base. It should be kept securely covered so as to preserve its pure colour, for under exposure to the air it was liable to turn grey, and after preparation it should be kept a long time before use, because if used in too fresh a state it acquired a yellowish tinge. The ordinary specification for white lead was : "Lead to be genuine English stack-made white lead not less than twelve months old." Pure white lead was always labelled "genuine" to distinguish it from reduced white lead, which was adulterated with inert fillers. The most common method of testing the quality of white lead was by observing its colour and noting whether it was free from grit, for the presence of grit indicated the presence of an adulterant. A simple test was to heat a small quantity of white lead over a gas jet : if it was pure it would take on a blue tinge. The poisonous effects of white lead were generally due to failure to wash the hands after using the paint, or to inhaling particles of dust floating in the air after a surface had been rubbed down. The last-named source of poisoning could be obviated by first damping the surface to be rubbed down and then rubbing down with waterproofed glass-paper.

The Binder.

The linseed oil used in making white-lead paint acted as a binder and held the particles of white lead together. For this purpose varnish or gold size might be used instead. To facilitate the use of the brush, and spread the paint more thinly over a surface, turpentine, commonly called turps, was employed as a thinner. White spirit might be used as a substitute. If the glossy surface produced by the use of oil in paint was not desired, the oil could be entirely replaced by turps, and such a coat of paint was known as a flatting coat. The time a coat of paint would take to dry could be regulated to a great extent by the proportion of oil and turps used; but it was customary to use also driers. Paint dried by the oxidation of the oil it contained and the driers were used to hasten this process : they acted either by parting with some of their own oxygen or by enabling the oil to combine with the oxygen of the air. Various materials were used as driers, and there was no standard formula; but patent driers consisted of sulphate of lime and chalk and are ground in oil to a stiff paste.

For outside painting where lasting qualities were most desirable, and for certain kinds of internal work, there was no efficient substitute for white lead; but the use of zinc oxide had rapidly extended of late years, chiefly because it was non-poisonous. It was claimed in its favour that its colour was not seriously affected by sea air or atmospheric impurities, and there were occasions where, because chemical fumes were constantly present, it was imperative to use zinc oxide instead of white lead. Its covering power in the second and following coats was equal to that of lead.

Pigments.

The materials used for giving colour to paint for decorative purposes were prepared from animal, earthy and metallic substances, either as a finely ground powder for tinting distemper or ground in oil for tinting oil paints. When prepared, the vessels in which they were kept should be carefully sealed so as to prevent the evaporation of the water or the oxidation of the oil. The best known of coloured pigments was red lead—i.e., oxide of lead. This was the base of some red paints, but it was not durable if exposed to acids, foul air or metallic salts; and its chief value lay in its first-class filling properties on woodwork when mixed with white lead and used as a priming coat on wood.

Coloured pigments were classified under three heads. The first were common colours such as white lead, red lead, ochres, greys and umbers. Next were superior colours such as blues and light yellows. Third came delicate tints, bright blues, rich reds and pinks. Ultramarine blue was one of the most important. Of the greens, Brunswick green was the most common : its range of shades was from very bright to almost black. It had good covering properties and was very durable, but was most effective when protected by varnish. Vandyke brown was manufactured from earth rich in organic matter, and was mainly used ground in water for graining.

Varnishes.

Varnishes were used to preserve painted work that was exposed to the weather, to provide wallpapers with a hard surface easy to clean, and on internal joinery to improve the appearance of the wood. There were two varieties, oil varnish and spirit varnish, the latter being used for paper. Oil varnish was a solution of resinous gums dissolved in liquid oil. It provided a harder cover than paint, giving greater protection as well as making the work easier to clean. Another reason for its use was that certain pigments did not work well in oil, so when a glossy finish was specified it was customary to paint the surfaces flat, and then apply a coat of varnish.

Enamel paints were coming into general use wherever a bright and washable surface was required : they could be obtained in flat and glossy forms, and when two coats of enamel were applied the surface cover was as smooth as silk. The first coat should be rubbed down to a semi-gloss with water and powdered pumice-stone, and every particle of this pumice-stone must be removed before the finishing coat of enamel was applied. With many of the enamel paints an undercoating was supplied by the manufacturers, because enamel lost its effect if put on a porous or glossy surface. The undercoating was a non-oily preparation which gave a hard, smooth, non-porous and non-absorbent surface, showing up the enamel to the best advantage.

Speaking of the application of paint, the lecturer said that the first coat or priming should be applied with as much care and skill as those that came afterward : no greater mistake could be made than to think that any boy or labourer could do this work. The paint used for the purpose generally consisted of white lead ground in linseed oil with a sufficient mixture of red lead to give a pink colour. About three parts of linseed oil, one part of turps, and driers at the rate of one ounce to the pound of paint were required for priming deal; but for hard woods the oil would have to be much reduced and the turps correspondingly increased. Priming should be applied thinly and well brushed into the pores of the wood, and when the priming was dry the surface shoud be carefully rubbed down and well dusted with the dust brush.

For subsequent coats, equal proportions of oil and turps should be used and the paint well spread. A series of thin coats was better for lasting purposes than the same quantity of paint applied in fewer operations.

PROGRESS OF BUILDING RESEARCH

BOARD'S ANNUAL REPORT

THE Annual Report of the Building Research Board,* just issued by the Department of Scientific and Industrial Research, states that the Board's resources for research and inquiry have been placed at the disposal of a departmental committee appointed by the Ministry of Health, as part of the national campaign against overcrowding and slum dwelling, to report on materials and methods of construction suitable for building working-class flats. A detailed survey from this point of view has been made by the Building Research Station of recently erected blocks of flats and, parallel with this survey, an examination of costs is proceeding. To assist this committee to make recommendations which will ensure a maximum of efficiency and suitability in the flats constructed in connection with slum clearance schemes, the Board state that they are expediting their plans for research on problems of fire-resistance and sound transmission.

The Search for Fire- and Sound-proof Materials.

Officers of the Building Research Station have closely co-operated in the design of a laboratory at Elstree for fire-resistance tests, which is to be opened shortly by the Fire Offices Committee. The sound transmission properties of partitions are being studied in the hope of developing light-weight structures having good sound-insulating properties. Unfortunately, the Report states, no notable exceptions have yet been found to the principle that the sound-reduction factor of solid partitions depends directly on their weight. Tests are being made, however, on double partitions and complex structures, and it is hoped to make further progress in this direction. Facilities have been provided at the Building Research Station in collaboration with the National Physical Laboratory for full-scale tests on floors. These include measurements of sound transmission, both of air-borne and impact noises, and various floor and ceiling finishes are being investigated. Referring to the annoyance caused by wireless loud-speakers in semi-detached houses, the Report says that in some instances it appears that this is due not to transmission through the 9-in. party walls themselves, but is influenced by the disposition of the beams supported by the walls.

Traffic and the Vibration of Buildings.

An investigation of the vibration caused in buildings by traffic, machinery, pile driving and other causes has been begun. Special measuring instruments are being designed for placing on parts of the building and on the ground to study the vibrations set up and the actual movements produced. An estimate based on the survey of existing knowledge has been made of the probable maximum vibration forces set up by traffic vibration in elements of buildings, in complete structures and in foundation soils.

"These preliminary estimates," the Report states, "indicate that the vibration stresses would have the greatest effect in the case of unloaded isolated masonry piers or walls built with lime mortar and subjected to horizontal vibration. In this case there appears to be a possibility of dangerously high compressive stresses and consequent cracking when the piers or walls are subjected to vibration of the intensity set up by heavy traffic. The estimated compressive stresses in similar walls forming part of a building are lower, but are sufficiently high to indicate a possibility of danger. The high estimated stresses in these two cases are primarily due to the inability of lime mortar to carry tensile stresses. The estimated shear stresses due to horizontal traffic vibration are low, even when amplified by resonance, but some relative movement may occur on a horizontal lime mortar joint in the case of isolated unloaded piers or walls subjected to severe horizontal vibration.

"The estimated stresses in piers or walls due to vertical traffic vibration are lower and below the estimated fatigue strength of brickwork or concrete, even after allowing for considerable stress amplification due to resonance. The stresses, however, are above the compressive fatigue strength of lime mortar, and although cracking of the brickwork due to vertical vibration will probably not occur, there is a possibility of the gradual disintegration and disappearance of the mortar.

"The estimated maximum stresses in floors due to traffic vibration allowing for resonance are below the estimated fatigue strengths, and it appears probable that the intensity of vibration of floors due to unbalanced machinery will, in general, become intolerable to the occupants of the room before it becomes dangerous to the floor structure.

"The calculated stresses due to vertical and horizontal traffic vibration in complete buildings vibrating as a whole are lower than those due to vibration of its individual elements, and are below the estimated fatigue strength of brickwork and concrete. Here, again, the gradual disintegration of lime mortars appears possible."

Wind Pressure Tests.

A model of a portion of London is being made for tests in a wind tunnel to determine the shielding effect of adjacent buildings as regards wind pressure. Further wind pressure tests on the Severn Bridge during a 55-mile-an-hour gale showed that the "wind front" of the gale was composed of a series of eddies so that the maximum wind pressure along the bridge, at any moment, varied from point to point. The likelihood of the average pressure on a wide front being equal to the maximum at any point, thus depends upon the probability of a number of eddies striking simultaneously.

Heating and Ventilation.

A convenient method has been worked out for controlling the humidity in showcases, which should also have important application in the preservation of valuable pictures, manuscripts and other museum specimens. Methods are also being studied for measuring the rate of change of air in a room with different methods of ventilation. Owing to the diffusion between the original air and fresh air it is pointed out that if fresh air equal to the volume of a room is introduced, only 63 per cent. of the original air in the room is actually changed. In warming a room, two of whose walls were external walls of the house and were thus colder than the others, it has been found that a saving of heat amounting to 8 per cent. resulted by covering the walls with metal paper. In factory buildings it is not an uncommon practice, the Report states, to provide heat by means of steam pipes above head level. This is a convenient system, but inefficient since the roof has to be heated before the building is warmed. It has been found that by installing a wooden trough or canopy over the heating pipes an economy of 30 per cent. is effected in the amount of heat required.

Inquiries and Special Investigations.

During the year over 2,000 inquiries and special investigations have been dealt with, an increase of nearly 25 per cent. over the total for the previous year. These special investigations and inquiries, as shown by the Station's monthly abstracts of questions and answers, which have appeared regularly in our columns, have covered a remarkable range of subjects.

New Materials Investigated.

An inspection has been made of several floors finished with a plastic composition consisting of rubber latex and cement with fillers such as marble chippings, cork, etc. The Report states that the fillers have appeared to have stood up well to heavy wear for periods varying from a few weeks to three years. One floor exposed out of doors was also in good condition.

During the year considerable interest had been displayed by the industry in cold glazes having a cement basis. The Report refers to two types, the first produced by casting a mixture of cement and other material on glazed or burnished metal, while the second type is produced by spraying with a suitable backing, such as asbestos cement sheeting, a suspension consisting of neat cement and water, to which metallic soaps or other substances are frequently added. Some forms of this process aim at the production of a glaze in the cement coat itself; others produce the glaze by the application of a film of cellulose or synthetic resin. Products of this kind, the report states, have a limited but definite field of application.

Weathering Qualities of Building Stones.

Dealing with natural building stones, the Report claims that by applying simple tests the weathering qualities of samples of Portland stone can now be determined with confidence, and suggests that the quarrying and building industries will derive mutual benefit if the methods can be applied to the control of the output of the quarries. The desirability of some form of control is demonstrated by the occurrence in certain buildings, of recent date, of a very inferior type of Portland stone.

In selecting stone for general building purposes, detailed testing would be impracticable. But, judging by results relating to those quarries that have been systematically sampled, there is justification for the belief that the beds in the quarries are sufficiently constant to warrant the application of tests to classify the various tiers in the several quarries in terms of their relative qualities and to keep check on any variation in each as quarrying operations proceed.

With regard to Clipsham stone, the Report states that the notable variation in the deposits of this stone makes it imperative that the stone should be very carefully selected when material of high durability is required. Fortunately it is possible to identify the various types of Clipsham stone with reasonable confidence by visual inspection, and laboratory tests are only necessary in order to determine the qualities of these different types in the first instance.

Micro-organisms Not Guilty of Causing Decay of Stone.

It was suggested some years ago that micro-organisms known to grow in soil, which in the course of their life processes oxidised or reduced sulphur compounds, might have an effect on stone decay. A lengthy investigation on this subject has been carried out for the Building Research Board at Imperial College, and has now been completed. The general conclusions reached are that such organisms can be found on the surfaces of buildings, and it has been shown that their mineral food constituents are present in sufficient quantities to support their activity. But sound stone is as likely to carry the organisms as decaying stone, and there is no reason to suppose that food constituents are available in decayed stone and not in sound stone. No evidence has been forthcoming in support of the attractive hypothesis that relationships between oxidising and reducing organisms are concerned in the processes of decay; nor is there, as yet, any evidence that the organisms exert some indirect effect.

Co-operative Research.

Much important work at the Building Research Station is being supported by annual contributions from technical and

* Report of the Building Research Board for the Year 1934. H.M. Stationery Office, price 3s. 6d. net.

trade associations. A new laboratory for the study of heating and ventilating problems is being constructed with the financial support of the Institution of Heating and Ventilating Engineers. Other co-operative researches in progress deal with Greystone limes, the resistance of concrete to the effects of sea-water, the driving of reinforced concrete piles and the study of cast concrete products, while a research on asphalt has been begun. The manufacturers concerned are also co-operating with the Station in drawing up rules of sound technical progress for the manufacture and laying of "magnesite" flooring. Consideration is also being given to the provision of facilities by which users can obtain reports on performance tests of paints.

The result of work on the constitution of cement is now being applied in practical cement problems, while investigations are being carried out on the effect of the clay content of concrete on the formation of shrinkage cracks, of the sand content on the strength and workability of concrete, on the effects of the heat evolved during setting, and on other problems of concrete. A special investigation has been made for the Ministry of Transport to compare the behaviour of ordinary reinforced concrete beams and beams constructed on the Ritchie principle, which employs a combination of steel joists and round bars.

MANUFACTURE OF BRICKS AND TILES

LECTURE AT HAMMERSMITH SCHOOL OF BUILDING

A SERIES of lectures now being given at the L.C.C. School of Building, Lime-grove, Shepherd's Bush, W., began on Friday, November 8, with one by Mr. C. G. Dobson, whose subject was "The Manufacture of Bricks and Tiles." The lecturer said that clay had been defined as nothing more than mud derived from the decomposition and wearing down of rocks. The relationship between brick and tile and slate was closer than was commonly thought, for slate had been clay hundreds of millions of years ago. But since then it had been burned by volcanic action and subjected to enormous pressure in the earth, until, by a series of physical and chemical changes, the clay had become slate. The oldest geological formation from which slate was obtained was the one from which we got the Bangor slate; this was the Cambrian. From the Ordovician came the Portmadoc slate, from the Silurian the Lake District slate, and from the Devonian the Delabole slate. Clays were found in later geological formations; the oldest of these, such as the Broseley and Staffordshire clays, came from the carboniferous strata, which also yielded slates. The London clay and the Woolwich and Reading beds came from a comparatively late geological formation, and younger still were the clays from Bridgwater and Barton-on-Humber. The great difference between slate and tile was that, in the case of slate, Nature had done the pressing and burning which, in the case of the tile, had to be done artificially.

The craft of brick and tile making depended upon the natural property of clay which, when moist, was plastic and easily moulded to any desired shape, but which, upon being heated for a suitable period and at a certain temperature, became permanently hard and strong. This change was the result of a definite alteration of the chemical composition, and was irreversible. Once it had taken place there was no chemical or other reaction which would restore the original plasticity: but it was essential that bricks and tiles should be thoroughly burned in order that the chemical and physical changes be completed. Anything he said about the manufacture of bricks applied also to tiles, except that clay that was suitable for bricks might not be good enough for tiles.

The lecturer described the various processes the clay went through. Digging in small works, he said, was done by hand, but in large ones by machinery. In works where clay was dug by hand, it was usually weathered for a winter in order that frost might break down the clay into small particles which could be easily moulded. An Act of Parliament passed in 1477, during the reign of Edward IV, provided that the earth whereof tiles were to be made should be "digged and cast up before the first day of November, stirred and turned before the first day of February, and not wrought before the first day of March." This showed that the importance of weathering was understood in those days, although in practice the law might not have been strictly adhered to.

In the next process, pugging, the clay was passed through a mill containing knives comparable to those in a sausage machine, but, of course, much larger. In most brick or tile yards the clay was found in several seams—in a Staffordshire yard as many as eight or ten different seams might be found. From some of these seams the clay might be too strong, *i.e.*, it might not contain enough sandy or loamy material; while the clay from other seams might be too mild and not contain enough alumina. The object of pugging was to mix these different clays. After pugging, the clay was ground and then cut up into sizes suitable for moulding, the moulding being done either in presses or by hand. Next came drying, which might be done either in stacks built in the open, or in steam-heated sheds. In yards where bricks were dried in the open air, the work could only be carried on in summer, because the bricks could not be dried in winter on account of frost. But in most cases nowadays bricks were made all the year round.

As to burning, this might be in clamps in the open air, or in a kiln. The old-fashioned kilns with an upward draught of air were no longer used, because the bricks at the top did not get sufficiently burned; an improvement on this kiln, with the draught downwards, was generally used for tiles, and when used for bricks such a kiln would hold about 75,000.

Generally, bricks were now burned in continuous-burning kilns, which were divided into chambers. In such a kiln there was always one chamber being filled, another being emptied, and others in which bricks were in various stages of drying, burning and cooling. The fire never went out except when repairs had to be made to the kiln. In such a kiln, Flettons took about two and a half days to burn, and other bricks took longer. In a downdraught kiln the bricks might be burning ten days, a fortnight, or even three weeks, according to conditions of weather and according to the kind of bricks required.

To make stock bricks, chalk was added to the clay, making a slurry. This was dried off. Ashes were added, and the mixture was put through a pug mill and cut into lumps for moulding. It was the chalk used in such bricks which gave the yellow colour. For wire-cut bricks the clay was put through a horizontal pug mill, emerging through a die 9 in. by 4½ in. A length of about eleven bricks was cut off by a wire cutter, to be afterwards cut into bricks, which might be sanded and pressed. Engineering bricks were made from a very hard clay, which would be quite unsuitable for ordinary wire-cut manufacture. They came from Accrington and Southwater, among other places.

NEW CINEMAS

BURNHAM-ON-SEA.—The site of the old Lifeboat Pavilion has been acquired by Mr. W. Trueman Dicken, proprietor of the Majestic Cinema, who proposes to erect a cinema. Plans are being prepared by Mr. R. A. Thomas, F.R.I.B.A., Northern-road, Cosham, Portsmouth. No contracts have been placed yet.

CHESTER.—Messrs. William and Segar Owen, F.R.I.B.A., Palmerra Square-chambers, Warrington, preparing revised plans and quantities for the erection of a news cinema on Swan-court and Foregate-street, for Chester Times (Theatres), Ltd., 3, Stanley-street, Liverpool.

CLEETHORPES.—Plans have been approved for a cinema for Union Cinemas, Ltd., 167, Wardour-street, W.1. The architect is Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1.

GORLESTON.—Plans have been prepared by Mr. F. E. B. Haward, 5, Queen-street, Great Yarmouth, for alterations to the Palace cinema, Beach-road.

GREAT BRITAIN.—The Odeon Circuit, Cornhill House, Bennetts Hill, Birmingham (Mr. Oscar Deutsch, managing director, Mr. R. H. Dewes, construction manager), are laying plans, in addition to 40 schemes at present in hand, for the erection of cinemas in the following 16 districts: Horsham, West Hartlepool, Acton, Deptford, Yeovil, Preston, Chorley, Crewe, Southsea, Portsmouth, Woolwich, Dudley, Wolverhampton, Ryde, I.O.W., Peterborough, and Watford.

HANLEY.—Plans for the cinema which the Odeon Circuit propose at Hanley have been prepared by Mr. H. Weedon, A.R.I.B.A., 83, Colmore-row, Birmingham.

HORSHAM.—A cinema is to be erected by Odeon Cinemas, Ltd., on a site set back from North-street. The architect is Mr. G. Coles, F.R.I.B.A., 40, Craven-street, W.C.2.

HORSHAM.—A cinema to seat 1,200 is to be erected in King's Meadow, fronting North-street, for the Union Cinemas, Ltd., 167, Wardour-street, W.1, to plans prepared by Messrs. Godman and Kay, FF.R.I.B.A., Bank-chambers, Carfax, Horsham.

IPSWICH.—Plans have been approved for a cinema for Union Cinemas, Ltd., 167, Wardour-street, W.1. The architect is Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1.

MIDDLESBROUGH.—A cinema theatre is to be built in Acklam-road South, for Councillor Jules Reubens. Plans are by Mr. W. E. Haslock, 143, Albert-road. No contracts let.

NOTTINGHAM.—Mr. R. W. Cooper, A.R.I.B.A., Queen's-chambers, King-street, is preparing plans for a cinema in Burton-road, Carlton, to cost £30,000.

SCUNTHORPE (LINCS.). — Plans have been approved for a cinema for Union Cinemas, Ltd., 167, Wardour-street, W.1. The architect is Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1.

STOCKPORT. — Mr. Charles Hartley, L.R.I.B.A., 128, Buxton-road, Great Moor, is preparing plans for the erection of a cinema at Cheadle Green.

TENTERDEN.—Plans have been approved for the erection of a cinema. The architect is Mr. Henry W. Coussens, A.R.I.B.A., 35, Havelock-road, Hastings. Work will commence shortly.

SWANSEA.—The South Wales Cinemas, Ltd., are to erect a cinema to seat 1,700 on the site of the Palace. The architects are Messrs. Mercer and Vaughan, Gower-chambers, Gower-street, and the builders Messrs. Lawford, Gower, Ltd., Briton Ferry.

WALTON-ON-THAMES.—The contract for the rebuilding after fire of the Regent cinema has been placed with Messrs. Limpus and Son, Ltd., 7, Kingston Hill, Kingston-on-Thames. The architects are Messrs. Leslie H. Kemp and Tasker, 10, Great James-street, W.C.1.

WARWICK.—Mr. and Mrs. S. Devis, cinema proprietors, Leamington, propose the erection of a 1,100-capacity cinema at East Gate, Warwick.

WEST HARTLEPOOL.—Messrs. Percy L. Browne and Sons, Pearl-buildings, Northumberland-street, Newcastle-on-Tyne, are the architects for the cinema to be built in Hart-road for Mr. T. H. Pailor, of the Hippodrome Theatre, in conjunction with Associated British Cinemas, Ltd.

WHITECHAPEL.—The Pavilion Theatre, Pavilion Yard, Whitechapel-road, and Old Montague-street, E.1, has been acquired by the Gaumont-British Corporation, Ltd., Wardour-street, W.1. Plans for its reconstruction are about to be prepared. The staff architect is Mr. W. E. Trent, F.R.I.B.A.

NEW BUILDINGS IN LONDON

ACTON.—FLATS.—An extensive scheme for 160 flats is to be proceeded with at Horn-lane and Creswick-road, W.3. The architect is Mr. Morris Joseph, A.R.I.B.A., 21, Hart-street, W.C.1.

ACTON.—FLATS.—Plans have been prepared by Mr. Wallace J. Gregory, Vincent House, Vincent-square, S.W.1, for two blocks of buildings on the Oldfield estate, The Vale, incorporating 174 flats.

ADDISCOMBE. — STATION. — Mr. Jno. Crewdson, Horley, has secured the contract for the superstructure at Bingham-road station for the Southern Railway Co.

BALHAM.—FLATS.—Plans have been prepared by Mr. Ernest Schaufelberg, 106, Jermyn-street, S.W.1, for the erection of flats, etc., in Nightingale-lane, S.W. The contractors are Messrs. Harland and Parker, Ltd., Grand-buildings, Trafalgar-square, W.C.2.

BANSTEAD. — IMPROVEMENTS. — For improvements to the buildings and new platform roofing at the railway station, the Southern Railway Co. has placed a contract with Mr. Jno. Crewdson, of Horley, at about £4,500.

BARKING.—BUILDING.—The T.C. has placed a contract for the erection of the new 12-bed cubicle block at the Barking Hospital with Messrs. Stedman Bros., New North-road, Barkingside, at £5,688 14s. 10d.

BARKING.— ADDITIONS.— Messrs. Charrington and Co., Anchor Brewery, Mile End-road, E.1, are to alter the "Volunteer" public-house in Alfred's-way.

BARKING.—PREMISES.—The Grays Co-operative Society, Ltd., 68, High-street, Grays, are proposing to erect shop premises in Gale-street.

BARKING.—HOUSES.—The T.C. are inviting tenders for the erection of 52 houses and flats in Red Lion-place, Axe-street, and Upney-lane.

BECONTREE: — SWIMMING BATH. — The T.C. are proposing to erect a swimming bath on the L.C.C. estate. The T.C. and the L.C.C. are negotiating with regards to the site.

BERMONDSEY. — REBUILDING. — Messrs. Barclay, Perkins and Co., Ltd., brewers, Park-street, Southwark, S.E., have under consideration the rebuilding of their licensed premises, the "Bramcote Arms," Bramcote-road South, S.E.16. The plans have been prepared by Messrs. F. J. Eedle and Myers, 8, Railway-approach, London Bridge, S.E.

BERMONDSEY. — REBUILDING. — Messrs. Wheater and Luker, 19, Basinghall-street, E.C.2, are the architects for the rebuilding of 2, Redriff-road. No building contracts placed.

BERMONDSEY.—HOUSING.—The B.C. has approved working drawings in respect of housing schemes, as follows: Odessa-street, blocks Nos. 4 and 5—elevation; Neptune-street, block No. 2—elevation; Alice-street, block No. 3; Adams-gardens, block No. 2; Tyers Gateway area and Cherry Garden-street, Block No. 1.

BOW.—REBUILDING.—The L.C.C. has recommended £43,670 for the rebuilding of the Roman-road school. Accommodation will be provided for 1,012 children.

BOW. — PREMISES. — Messrs. Geo. Moss (London), Ltd., Dorchester-road, Northolt Park, are erecting a new post office at 134, Bow-road, E.3, from plans prepared by Mr. E. R. Taylor, A.R.I.B.A., 5, Manchester-square, W.1.

BOW. — CLINIC. — Mr. S. P. Dales, F.R.I.B.A., 63, High Holborn, W.C.1, is the architect, and Messrs. G. B. Farrar and Co., 193, Whitechapel-road, E.1, are the builders, for a new day nursery in Tidey-street, E.3.

BUCKINGHAM - GATE.—OFFICES. — The Carrier Engineering Co., Ltd., 24, Buckingham-gate, S.W.1, are to build additional offices at the rear of their premises. The contractors are Messrs. Ward and Paterson, Ltd., Broadway-court, S.W.1. The architects are Messrs. E. Howard and Partners, 3, St. James's-street, S.W.1.

CATFORD.—REBUILDING.—Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1, have under consideration the rebuilding of the "Shakespeare," Powis-street, S.E. The brewery architect is Mr. A. W. Blomfield, F.R.I.B.A. No contracts have been let.

CHELSEA. — FLATS. — The Twisteel Reinforcement, Ltd., Kingston-road, New Malden, have submitted an application to the L.C.C. for the erection of flats upon a site abutting upon Flood-street.

CHILD'S HILL.—FLATS.—Messrs. Ernest Owers, Ltd., Golders Green Tube Station, N.W.11, are proposing to erect a three-story block of 48 flats in Lyndale and Burgess Hill, N.W. No contracts placed.

CROYDON.—ADDITIONS.—For additions to the ward and lavatory blocks at the Mental Hospital, for the C.B., a contract has been placed with Mr. Jno. Crewdson, of Horley, at about £9,000.

CROYDON.—FLATS.—The Croydon C.B. are inviting tenders for the erection of 24 flats and maisonettes in one block upon a site in Bridge-place. The plans are by the Borough Engineer, and the tenders are to be returned by December 13.

EALING.—SHOPS.—Messrs. A. J. A. Taylor and Co., Deane estate, South Ruislip, are erecting shops in Ruislip-road.

EDGWARE.—GARAGE.—And a covered way are to be erected in Edgware-road and Deansbrook-road, by Edgware Motors, Ltd., High-street, Edgware, who are about to consider tenders.

ELSTREE.—STUDIOS.—Plans have been prepared by Modern Studios Construction, Ltd., Grand-buildings, Trafalgar-square, W.C.2, for large film studios at Elstree-way. The cost is stated to be in the region of £250,000, and work will commence soon.

ENFIELD.—SHOPS.—Messrs. Marshall and Tweedy, FF.R.I.B.A., 9, New Cavendish-street, W.1, are the architects for shops to be erected in Hertford-road.

EPSOM.—EXTENSIONS.—Are proposed at the British Legion Club, The Parade. The architects are Messrs. Williams, Pettett and Gardner, 1, Ashley-road, Epsom.

ESHER.—HALL.—Tenders are to be invited for a public hall and institute in Portsmouth-road. The architect is Mr. G. Blair Imrie, F.R.I.B.A., 2, Mitre-court-chambers, Fleet-street, E.C.4.

FELTHAM. — FACTORIES.—The Middlesex C.C. has passed plans by Mr. R. O. Blott, for erection of factories in Twickenham-road.

FINCHLEY.—FLATS.—The Monarch Properties, Ltd., has plans approved for flats and garages in the Barnet by-pass.

GROSVENOR-ROAD. — FLATS. — Messrs. Gordon Jeeves and Partners, 16, Hanover-square, W.1, are the architects for the erection of flats at Ormonde-court, Grosvenor-road, St. George's-square, Chichester-street, and Claverton-street. The builders are Messrs. Richard Costain, Ltd., Upper Woburn-place, W.C.1.

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15, North Audley Street, London, W.1.

HARROW.—FLATS.—No contracts are yet settled for the flats and garages to be erected in Edgware-road from plans prepared by Messrs. Robins, Gore and Mercer, 205, Wardour-street, W.1.

HENDON.—SHOPS.—An application has been made to the T.C. for permission to build shops and showrooms in Bittacy Hill and Engell Park, N.W.7. The architect is Mr. G. H. Nicholls, 18b, Broadway, Stanmore.

HENDON. — FLATS. — Mr. A. Wiener, L.I.O.B., of Brent Cross, is erecting flats on the Watford By-pass at Brent Cross.

HIGHBURY.—STUDIOS.—A new company, the Highbury Studios, Ltd., has acquired the freehold of the Highbury Athenæum, which is to be reconstructed as new studios. The architect is Mr. H. V. Rowlands, of Golders Green, and the general contract has been placed with Messrs. Ward and Norfolk, Regent-square, W.C.

HOUNDSDITCH.—OFFICES.—Nos. 5-7 have been acquired by the Westminster Watch Co., Ltd., 75, Aldgate High-street, E.C.3, who are to have plans prepared for new office and showroom premises.

ILFORD.—HOUSING.—The L.C.C. has recommended £175,000 in respect of the acquisition for housing purposes of sites in Chigwell, Dagenham and Ilford.

ISLEWORTH. — SHOPS. — The Middlesex C.C. has approved plans submitted by Mr. J. F. Turner, for the erection of shops in St. John's-road.

ISLINGTON.—SHOWROOMS.—The Islington Electricity Committee have accepted the tender of Messrs. J. Gerrard and Sons, Ltd., Victoria House, Southampton-row, W.C.1, at £22,700, for new showrooms and offices in Holloway-road and Camden-road, N. The plans have been prepared by Mr. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, Moorgate, E.C.3. The quantity surveyor is Mr. F. N. Falkner, 4, York Mansions, Princes-street, W.1.

KENSINGTON.—HOUSING.—The Kensington Housing Trust have had plans prepared for a new building on a site recently acquired adjoining Margaret and Dighton Pollock House, North Kensington. The work is to begin shortly.

LAMBETH.—EXTENSION.—The B.C. has approved the appointment of Mr. H. Austen Hall, F.R.I.B.A., 37, Norfolk-street, W.C.2, as architect in connection with the extension of the Town Hall. The quantities are to be prepared by Messrs. Hugh Watkins and John Decker, 15, Gray's Inn-road, W.C.1.

LEYTON. — RECONSTRUCTION. — Messrs. George Baines and Son, FF.R.I.B.A., 121, Victoria-street, S.W.1, are the architects for reconstructing the premises in Kirkdale-road for Messrs. Bearmans, Ltd.

LEYTON. — SHOWROOMS. — The Borough Engineer and Surveyor has submitted plans, estimate of cost, etc., to the T.C. for the erection of electricity showrooms in High-road, at the corner of William-street.

LONDON.—HOUSING.—The L.C.C. has recommended the following amounts of money for housing schemes: £115,000 for acquisition of properties in Dorset-road (Nos. 1 to 4) areas, Lambeth; and £18,000 for acquisition of properties adjoining the Barnfield-road areas, Woolwich.

MILL HILL.—ESTATE.—Plans have been prepared for the erection of 72 flats in Laleham-avenue and eight flats in Fernside-avenue, N.W.7, together with new roads and sewers off Fernside-avenue. The architect is Mr. William Thorpe, F.S.I., The Broadway, Mill Hill, N.W.

MINORIES.—BUILDING.—Messrs. C. Miskin and Sons, Ltd., Romeland, St. Albans, have secured the contract for a new building upon the site of Haydon-street, Swan-street, and Minories. The architects are Messrs. Fuller Hall and Foulsham, 212, High Holborn, W.C.1.

NEWINGTON GREEN. — REMODELLING. — The L.C.C. has recommended £38,130 for the remodelling and enlargement of the L.C.C. Newington Green school. Accommodation will be provided for 1,150 children.

OLD FORD-ROAD — FACTORY. — Messrs. J. Lubelsky and Sons, Ltd., 616, Old Ford-road, E.3, are to have a new factory erected on the site of No. 616.

ST. JOHN'S WOOD.—Flats.—A further block of high-class flats is to be erected in Avenue-road, N.W., for Avenue Developments, Ltd. The contractors are Messrs. Bovis, Ltd., 35, High-street, W.1. The architects are Messrs. Stanley Hall, Easton and Robertson, FF.R.I.B.A., 54, Bedford-square, W.C.1.

SHEPHERD'S BUSH.—Extensions.—Mr. L. O. Woodward is the architect for extension of the factory premises in Aldine-place and Bulwer-street, W.12.

SHOE-LANE.—Rebuilding.—Tenders are about to be considered for the rebuilding and extension of the premises of the "Evening Standard" in Shoe-lane and Plumtree-court, E.C. The plans have been prepared by Sir E. Owen Williams, K.B.E., 5, St. George's-road, S.W.1.

SHOREDITCH.—Premises.—The L.C.C. have recommended another site adjoining the Haggerston-road No. 1 area for the re-erection of the "Prince Ernest" public-house now in Clarissa-street. The owners are the Wenlock Brewery Co., Ltd., Wenlock-road, N.1.

SOUTH HARROW.—Alterations.—Mr. Sydney Dawe, A.R.I.B.A., 83, High-street, Watford, is the architect for the alterations to "Timber Carriage" public-house in Northolt-road.

SOUTHALL.—Office.—H.M.O.W. have placed a contract with Messrs. L. T. Buckley, Ltd., 14, Regent-street, S.W.1, for a new post office and sorting office.

SOUTHALL.—Clinic.—The Surveyor to the U.D.C., in consultation with the Medical Officer of Health, is to prepare and submit plans and estimates for the erection of a branch maternity and child welfare clinic at Jubilee-gardens.

SOUTHALL.—Shops.—Plans have been passed by the U.D.C. for fourteen shops with flats above in Lady Margaret-road West, for the West Middlesex Investment Co., Ltd., 2, Belmont-chambers, Uxbridge.

SURREY.—Building.—The C.C. has approved the following: Mr. T. N. C. Mumby, chartered surveyor, Parliament-mansions, Victoria-street, S.W.1, to prepare bills of quantities and estimates for additional accommodation for the nursing staff at the Epsom County Hospital; new school for 240 children in Keston-avenue, Coulsdon and Purley, Messrs. Truett and Steele, Ltd., £11,353; caretaker's cottage at Poplar-road central school, Merton and Morden, Messrs. Sewell and Richardson, £647; erection of Cheam Park Farm school, for 384 children, at £13,980; improvements to the Kingston Technical College and School of Art; erection of Banstead central school, for 360 children, at £16,700; semi-permanent structure with cooking accommodation and a dining-room at Chipstead Valley central school, Banstead, at £580; and enlargement of Warlingham school, to accommodate about 224 junior and infant children.

TWICKENHAM.—Houses.—D.S.M. Estates, Ltd., Hounslow, propose 58 houses on the Rosalind estate.

TWICKENHAM.—Flats.—Approval has been given to an application by Messrs. Dickinson, Norman and Walls to the proposed erection of 140 flats and 59 garages on the north side of Cambridge-park.

TWICKENHAM.—Alterations.—And additions are to be made to the branch premises at Nos. 4-6, London-road, of the National Provincial Bank, Ltd., 15, Bishopsgate, E.C.3. The Bank Architect is Mr. W. F. C. Holden, F.R.I.B.A.

TWICKENHAM.—Estate.—Plans have been prepared by Messrs. Wates, Ltd., builders, 98, London-road, Mitcham, for the development of a large estate at the Meadway. The lay-out includes 318 houses.

WOOLWICH.—Additions.—Including a new ward annexe are to be made to the British Hospital for Mothers and Babies, Samuel-street, S.E.18. The plans have been prepared by Messrs. Young and Hall, 17, Southampton-street, W.C.1, and tenders will be invited shortly.

CORRESPONDENCE

(*Continued from page* 1002.)

The Building Trade and Licensing of Motor Vehicles.

In the course of a letter on this subject Mr. T. W. D. Smith, Secretary of the Traders' Defence Association, writes as follows:—

"There is a growing danger that the operation of the licensing laws relating to motor vehicles may seriously prejudice the interests of those engaged in the building trade throughout the country. The railway companies, in addition to diverting traffic from the road to the rail by means of 'agreed charges,' have adopted the practice of opposing all applications for licences in favour of road vehicles.

"Difficulties have been and are still being experienced with 'A' and 'B' licences, the granting of which lies within the discretion of the various licensing authorities, who are empowered to attach conditions to 'B' licences, whether for 'claimed' or 'discretionary' tonnage, restricting the users of these vehicles within a certain radius and for the conveyance of certain classes of goods only.

"Traders are beginning to appreciate the difficulties which hauliers have to contend with in obtaining licences, and they fear, with justification, that an attempt may be made to restrict the use of 'C' licence vehicles. The withdrawal of a licence may have a most serious effect on a firm's business, and naturally builders and merchants are desirous of obtaining and holding their licences without friction with the law.

"The objects of the Traders' Defence Association are to help traders to obtain fair play, and to maintain the right of the trader to decide whether he will operate his own motor vehicles, employ independent road haulage, or send his goods by rail."

We are informed that any further information concerning the work of the Association will be supplied on application to 37, St. Nicholas Street, Bristol.

Measurement of Sand and Ballast.

Sir,—The announcement in your last issue that the new Weights and Measures Bill proposes to "legalise" the cubic yard as the unit of measurement of sand and ballast raises the rather important point as to what is a cubic yard of these materials. Sand and ballast are used almost solely for concrete making, in which case the contractor or other customer is financially interested in the amount of concrete in place that will be produced for a given expenditure on materials. So far as the concrete-making capacity of sand and ballast is concerned, only the dry materials can be taken into account, and this is what the client pays for.

It is a fairly well-known fact that the amount of concrete-making or mortar-making material in a cubic yard of sand may vary by as much as 40 per cent., according to the amount of moisture it contains. A cubic yard of sand which has been in the rain, or to which water has been added, may contain anything between 60 and 100 per cent. as much sand as a cubic yard of dry sand. It is known that between 4 and 5 per cent. of added water causes the maximum bulking of sand, and that the amount of bulking is less with smaller or larger proportions of water. If he pays, say, 10s. for a cubic yard of sand with a water content of 4 to 5 per cent., the contractor may get as little as 6s. worth of concrete-making material; for the remaining 4s. he gets water and air.

The measurement of sand by volume is akin to the practice of selling garden peas and similar produce by volume; the method is so open to abuse because of the variable weight that can be filled into a measure that the practice is now forbidden and produce of this nature must be sold by weight. In the north of England and the Midlands, sand is also invariably sold by weight, and this would certainly seem to be a fairer method. H. C.

FIRE AND SPRINKLER-TESTING STATION, ELSTREE

The new Fire and Sprinkler-Testing Station at Elstree, which was recently opened by the Duke of Kent, has been erected by the Fire Offices Committee, which includes all the fire insurance companies of Great Britain. The chairman, in the course of an address to the Duke, said that the purpose of the station was to enable manufacturers of materials to obtain tests of their products in accordance with the standards of fire resistance and incombustibility laid down for elements of structure by the British Standards Institution. Its existence would make possible the erection of buildings possessing known qualities of fire resistance; buildings of which it might be said, with some degree of certainty, that, after exposure for specified periods and under a certain load to temperatures within a specified range, the fabric would not collapse nor burn, and would not communicate fire to adjoining buildings. The Fire Testing Station was unique in this country, and there was nothing strictly comparable to it elsewhere. The furnaces and testing machinery were instruments of scientific precision. The degree of precision at which they had aimed might be gauged from the fact that the hydraulic rams for applying and maintaining loads up to 500 tons, were two feet in length and nearly one foot in diameter, and yet were working with a clearance of no more than one-thousandth of an inch. The mechanism for controlling the furnaces and machinery, including the many recording instruments, had been centred in one room. The elaboration of the system of remote electrical control had involved the installation of over six miles of electric wiring. The panels filling in the reinforced concrete frame were built of a material not previously used in this country—blocks of foamed slag concrete. The use of blast furnace slag for this purpose, if at all widely developed, might well bring some additional relief to districts which in recent years had suffered severely. The manufacturers, Messrs. Holland & Hannen and Cubitts, Ltd., hoped to be able to utilise the great slag heaps of Manchester, Middlesbrough and Glasgow. The Department of Scientific and Industrial Research, under whose auspices tests would be conducted, had throughout co-operated closely with the Committee, and had freely placed at their disposal both the resources of the Building Research Station and the vast technical knowledge of their staff. They wished to acknowledge, too, the help received from those who had erected the buildings and manufactured the furnaces and testing machinery. Much of the equipment installed there was of a kind never made before, and the manufacturers had taken the friendliest and most helpful interest in the designing of the plant.

The Duke of Kent, briefly replied to the address and then declared the building open.

The Preservation of the Countryside.

A preservation scheme for 10,000 acres of the South Downs between Eastbourne and Seaford has been prepared for approval by the Ministry of Health. The land is within the area of the Hailsham Rural District Council, whose object has been to make the preservation effective from the coast to the greatest inland heights. The East Sussex County Council and the Eastbourne Corporation have co-operated in the scheme.

A gift of 50 acres of land on the crest of the Hog's Back has been made to Guildford by Onslow Village, Ltd., on condition that it is kept free from building in perpetuity. The land is of value to Guildford as it preserves the view of the Hog's Back from the Guildford by-pass road.

Obituary.

We have to record with regret the death on November 23 of Mr. Thomas George Pleasants, director of Messrs. Charles Brightman & Son, Ltd., of Ebury-road Works, Watford.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JULY, 1935.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberdare	1/5½	1/1½
Abergavenny	1/5½	1/1½
Abingdon	1/4½	1/0½
Accrington	1/6	1/1½
Aldeburgh	1/2	10½
Aldershot	1/3	11½
Alfreton	1/6	1/1½
Alnwick	1/5½	1/1½
Altrincham	1/6	1/1½
Amble	1/5½	1/1½
Amersham	1/4	1/-
Ammanford	1/6	1/1½
Andover	1/3	11½
Ardingly	1/4	1/-
Arundel	1/3½	11½
Ascot	1/4	1/-
Ashby-de-la-Zouch	1/4½	1/0½
Ashford (Kent)	1/3	11½
Ashford (Middx.)	1/5	1/0½
Ashington	1/5½	1/1½
Ashtead	1/4½	1/0½
Ashton-under-Lyne	1/6	1/1½
Aylesbury	1/3½	11½
Aylsham	1/3	11½
Bagshot	1/3	11½
Banbury	1/3½	11½
Barnsley	1/6	1/1½
Barnstaple	1/4	1/-
Barrow-in-Furness	1/6	1/1½
Barry	1/6	1/1½
Basingstoke	1/3½	11½
Bath	1/5	1/0½
Batley	1/6	1/1½
Beaconsfield	1/4	1/-
Beccles	1/2½	11
Bedford	1/5	1/0½
Berkhamsted	1/3½	11½
Berwick	1/5	1/0½
Beverley	1/6	1/1½
Bexhill-on-Sea	1/4	1/-
Bideford	1/4	1/-
Biggleswade	1/3½	11½
Billericay	1/3½	11½
Birchington	1/3½	11½
Birkenhead	1/7½‡	1/3
Birmingham	1/6	1/1½
Bishop Auckland	1/5½	1/1½
Bishops Stortford	1/4½	1/0½
Blackburn	1/6	1/1½
Blackpool	1/6	1/1½
Blyth	1/6	1/1½
Bognor Regis	1/3½	11½
Bolton	1/6	1/1½
Bournemouth	1/5	1/0½
Bracknell	1/3½	11½
Bradford	1/6	1/1½
Bradford-on-Avon	1/3*	11½
Braintree	1/4	1/-
Brentwood	1/5½	1/1½
Bridgwater	1/4	1/-
Bridlington	1/5½	1/1½
Brighouse	1/6	1/1½
Brighton	1/5	1/0½
Bristol	1/6	1/1½
Broadstairs	1/3½	11½
Bromsgrove	1/5	1/0½
Buckley	1/6	1/1½
Bungay	1/2	10½
Burnham-on-Crouch	1/2½	11
Burnley	1/6	1/1½
Bursiem	1/6	1/1½
Burton-on-Trent	1/6	1/1½
Bury	1/6	1/1½
Bury St. Edmunds	1/3½	11½
Buxton	1/5½	1/1½
Byfleet	1/4	1/-
Cambridge	1/5½	1/1½
Canterbury	1/3½	11½
Cardiff	1/6	1/1½
Carlisle	1/6	1/1½
Carnforth	1/6	1/1½
Castleford	1/6	1/1½
Caterham	1/4½	1/0½
Chard	1/3*	11½
Chatham	1/4½	1/0½
Chelmsford	1/4½	1/0½
Cheltenham	1/4½	1/0½
Chepstow	1/5	1/0½
Chertsey	1/4½	1/0½
Chester	1/6	1/1½
Chesterfield	1/6	1/1½
Chichester	1/3½	11½
Chorley	1/6	1/1½
Cirencester	1/3½*	11½
Clacton	1/4	1/0
Cleveleys	1/6	1/1½
Clitheroe	1/6	1/1½
Cobham	1/4½	1/0½
Colchester	1/5	1/0½
Colwyn Bay	1/5	1/0½
Congleton	1/5½	1/1½
Coventry	1/6	1/1½
Cranbrook	1/2½	11
Cranleigh	1/3	11½
Crawley	1/4	1/-
Crewe	1/5	1/0½
Cromer	1/3	11½
Crowborough	1/4	1/-
Cuckfield	1/4	1/-
Darlington	1/6	1/1½
Darwen	1/6	1/1½
Daventry	1/4½	1/0½
Deal	1/3½	11½
Denbigh	1/4½	1/0½
Derby	1/6	1/1½
Devizes	1/2½*	11
Dewsbury	1/6	1/1½
Didcot	1/4	1/0
Diss	1/2½	11
Doncaster	1/6	1/1½
Dorchester	1/3½*	11½
Dorking	1/4	1/-
Dover	1/3½	11½
Dovercourt	1/4	1/-
Driffield	1/4½	1/0½
Droitwich	1/5	1/0½
Dudley	1/6	1/1½
Dunstable	1/4	1/-
Durham City	1/6	1/1½
Eastbourne	1/5	1/0½
E. Glam. (Mon. Val.)	1/5½	1/1½
East Grinstead	1/4	1/-
Edenbridge	1/4	1/-
Ely	1/2½	11
Epping	1/5	1/0½
Exeter	1/5†	1/0½
Exmouth	1/4	1/-
Fakenham	1/2½	11
Falmouth	1/4½	1/0½
Fareham	1/3½	11½
Faversham	1/3	11½
Felixstowe	1/4½	1/0½
Filey	1/4½	1/0½
Fleetwood	1/6	1/1½
Flint	1/5½	1/1½
Folkestone	1/3½	11½
Frinton-on-Sea	1/4	1/-
Frome	1/3*	11½
Gainsborough	1/5	1/0½
Gateshead	1/6	1/1½
Gillingham	1/4½	1/0½
Glossop	1/6	1/1½
Gloucester	1/5†	1/0½
Godalming	1/4	1/-
Goole	1/5	1/0½
Gosport	1/5	1/0½
Grantham	1/4½	1/0½
Gravesend	1/5½	1/1½
Gt. Yarmouth	1/4	1/-
Grimsby	1/6	1/1½
Guildford	1/4	1/-
Guilsborough	1/4½	1/0½
Halifax	1/6	1/1½
Hanley	1/6	1/1½
Harpenden	1/4½	1/0½
Harrogate	1/6	1/1½
Hartlepools	1/6	1/1½
Harwich	1/4	1/-
Haslemere	1/3	11½
Hastings	1/3½	11½
Hatfield	1/5	1/0½
Haywards Heath	1/4	1/-
Hednesford	1/5½	1/1½
Hemel Hempstead	1/5	1/0½
Henley	1/4	1/-
Hereford	1/4*	1/-
Herne Bay	1/3½	11½
Hertford	1/5	1/0½
Heysham	1/6	1/1½
Hitchin	1/4½	1/0½
Hoddesdon	1/5	1/0½
Holt	1/2	10½
Horley	1/3½	11½
Horsham	1/3½	11½
Horwich	1/6	1/1½
Huddersfield	1/6	1/1½
Hull	1/6	1/1½
Hunstanton	1/2½	11
Huntingdon	1/3	11½
Ilfracombe	1/4	1/-
Ingatestone	1/3½	11½
Ipswich	1/5	1/0½
Isle of Thanet	1/3½	11½
Isle of Wight	1/3	11½
Keighley	1/6	1/1½
Kenilworth	1/6	1/1½
Kettering	1/5½	1/1½
Kidderminster	1/5	1/0½
Kings Lynn	1/3½	11½
Kirkham	1/6	1/1½
Knowle	1/5½	1/1½
Lancaster	1/6	1/1½
Leamington	1/5½	1/1½
Leatherhead	1/5	1/0½
Leeds	1/6	1/1½
Leicester	1/6	1/1½
Leighton Buzzard	1/3	11½
Letchworth	1/4½	1/0½
Lewes	1/2½	11
Lichfield	1/5	1/0½
Lincoln	1/6	1/1½
Littlehampton	1/3½	11½
Liverpool	1/7½‡	1/3
Llandudno	1/5	1/0½
Llanelly	1/6	1/1½
London—		
12 m. radius	1/7½*	1/2½
12-15 m. radius	1/7*	1/2½
Long Eaton	1/6	1/1½
Longton	1/6	1/1½
Loughborough	1/6	1/1½
Louth	1/4½	1/0½
Lowestoft	1/4	1/-
Luton	1/5½	1/1½
Macclesfield	1/5½	1/1½
Maidenhead	1/4½	1/0½
Maidstone	1/4½	1/0½
Malvern	1/4½	1/0½
Manchester	1/6	1/1½
Manningtree	1/2½	11
Mansfield	1/6	1/1½
March	1/3	11½
Margate	1/3½	11½
Market Harborough	1/5	1/0½
Matlock	1/4½	1/0½
Melton Constable	1/2	10½
Melton Mowbray	1/5	1/0½
Merthyr Tydfil	1/5½	1/1½
Middlesborough	1/6	1/1½
Middleton	1/6	1/1½
Middlewich	1/5	1/0½
Milford Haven	1/4	1/-
Morecambe	1/6	1/1½
Morley	1/6	1/1½
Mundesley	1/3	11½
Nantwich	1/5	1/0½
Newark-on-Trent	1/5	1/0½
Newbury	1/3½	11½
Newcastle-on-Tyne	1/6	1/1½
Newcastle-u.-Lyme	1/6	1/1½
New Forest	1/3	11½
Newmarket	1/4	1/-
Newport, Mon.	1/6	1/1½
Newport Pagnell	1/3	11½
Northampton	1/6	1/1½
Norwich	1/5½	1/1½
Nottingham	1/6	1/1½
Nuneaton	1/6	1/1½
Oakham	1/4½	1/0½
Oldham	1/6	1/1½
Ormskirk	1/6	1/1½
Oxford	1/5½	1/1½
Oxted	1/3	11½
Paignton	1/5½	1/1½
Peterborough	1/5½	1/1½
Plymouth	1/6†	1/1½
Pontypridd	1/5½	1/1½
Portsmouth	1/5	1/0½
Port Talbot	1/6	1/1½
Preston	1/6	1/1½
Pulborough	1/2½	11
Ramsgate	1/3½	11½
Reading	1/5	1/0½
Redditch	1/5	1/0½
Redhill	1/4	1/-
Reigate	1/4	1/-
Retford	1/4½	1/0½
Rickmansworth	1/5½	1/1½
Ripon	1/4½	1/0½
Rochdale	1/6	1/1½
Rochester	1/4½	1/0½
Rugby	1/6	1/1½
Saffron Walden	1/2½	11
St. Albans	1/5½	1/1½
St. Helens	1/6	1/1½
St. Neots	1/3	11½
Salisbury City	1/3*	11½
Salisbury Plain	1/3*	11½
Sawbridgeworth	1/4	1/-
Saxmundham	1/2	10½
Scarborough	1/5½	1/1½
Selby	1/6	1/1½
Sevenoaks	1/4½	1/0½
Sheerness	1/3½	11½
Sheffield	1/6	1/1½
Shipley	1/6	1/1½
Shoeburyness	1/5½	1/1½
Shoreham	1/4½	1/0½
Shrewsbury	1/5	1/0½
Sittingbourne	1/3	11½
Skegness	1/5	1/0½
Sleaford	1/4½	1/0½
Slough	1/5	1/0½
Southampton	1/5	1/0½
Southend-on-Sea	1/5½	1/1½
Southport	1/6	1/1½
South Shields	1/6	1/1½
Spalding	1/3½	11½
Stafford	1/5½	1/1½
Staines	1/5	1/0½
Stamford	1/4½	1/0½
Stevenage	1/4½	1/0½
Stockport	1/6	1/1½
Stockton-on-Tees	1/6	1/1½
Stoke-on-Trent	1/6	1/1½
Stourbridge	1/5½	1/1½
Stourport	1/5	1/0½
Stowmarket	1/2½	11
Stratford-on-Avon	1/4½	1/0½
Stroud	1/4½†	1/0½
Sunderland	1/6	1/1½
Sutton Coldfield	1/6	1/1½
Swaffham	1/2	10½
Swanage	1/4*	1/-
Swansea	1/6	1/1½
Swindon	1/4½*	1/0½
Tamworth	1/5½	1/1½
Taunton	1/4	1/-
Tenterden	1/3	11½
Tewkesbury	1/4½*	1/0½
Thetford	1/2½	11
Thorpe Bay	1/5½	1/1½
Todmorden	1/6	1/1½
Tonbridge	1/4½	1/0½
Torquay	1/5½	1/1½
Totnes	1/4†	1/-
Trowbridge	1/3*	11½
Truro	1/3	11½
Tunbridge Wells	1/4½	1/0½
Uppingham	1/4½	1/0½
Uttoxeter	1/4½	1/0½
Wakefield	1/6	1/1½
Walsall	1/6	1/1½
Walsden	1/6	1/1½
Walton-on-Naze	1/4	1/-
Ware	1/5	1/0½
Warminster	1/3*;	11½
Warrington	1/6	1/1½
Warwick	1/5½	1/1½
Wellingborough	1/5½	1/1½
Wells (Norfolk)	1/2	10½
Welwyn	1/5	1/0½
Welwyn Gar. City	1/6	1/1½
West Bromwich	1/6	1/1½
Westcliff-on-Sea	1/5½	1/1½
Weston-super-Mare	1/5	1/0½
Weybridge	1/4½	1/0½
Weymouth	1/3½*	11½
Whitby	1/5	1/0½
Whitstable	1/3½	11½
Widnes	1/6	1/1½
Wigan	1/6	1/1½
Wigton	1/4½	1/0½
Willington	1/5½	1/1½
Wilmslow	1/6	1/1½
Winchester	1/4	1/-
Windermere	1/4½	1/0½
Windsor	1/5	1/0½
Wisbech	1/3	11½
Witham	1/4	1/-
Woking	1/4	1/-
Wokingham	1/4	1/-
Wolverhampton	1/6	1/1½
Woodbridge	1/3	11½
Worcester	1/5	1/0½
Workington	1/4½	1/0½
Worksop	1/5	1/0½
Worthing	1/3½	11½
Wrexham	1/5½	1/1½
Wroxham	1/3½	11½
Wycombe	1/4½	1/0½
Wymondham	1/2½	11
Yeovil	1/4*	1/-
York	1/6	1/1½

* Painters 1d. less than other Craftsmen. † Painters, ½d. less than other Craftsmen. ‡ Plasterers 1s. 8½d.

For Building Trade Wages in Scotland, see page 1041.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

DECEMBER 9.

Alnwick.—Cottages.—6, for aged workers at Shilbottle, for R.D.C. J. Wightman Douglas, chartered architect and chartered surveyor, 27, Bondgate Without.

Basford.—Painting.—Of various houses, for R.D.C. J. J. Ellis, Housing Architect, Rock House, Stockhill-ln. Dep. £1 1s.

Birmingham.—External.—And internal painting at post office stores, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Bradford.—Alterations.—And additions to administrative cottage, aged people's homes, Daisy Hill, for T.C. City Architect.

Camelford.—Alterations.—And additions to two cottages at St. Breward and one at Treknow, Tintagel, for R.D.C. A. R. Hansford, Building S.

Chesterfield.—Alterations.—To low-pressure hot-water heating system at Girls' High School, for Derbyshire E.C. G. H. Widdows, County Architect, County Offices, Derby. Dep. £2 2s.

Cuckfield.—Cottages.—10 2-bedroomed, 32 3-bedroomed, 6 4-bedroomed and 1 block of 4 flats at Hurstpierpoint, also 4 cottages at Balcombe, for R.D.C. A. Hutchings, S., Boltro-rd., Haywards Heath. Dep. £2 2s

Davyhulme.—Laundry.—At Park hospital, for Lancashire C.C. Stephen Wilkinson, County Architect, County Hall, Preston. Dep. £2.

Docking.—Houses.—6, at Sedgeford, for R.D.C. J. H. Marshall, clerk. Dep. £1 1s.

Droylsden.—Library.—For Lancashire C.C. County Architect, Stephen Wilkinson, F.R.I.B.A., County Offices, Preston. Dep. £2.

Dumbarton.—Alterations.—At head post office, College-st., for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1 1s.

Dundee.—Conversion.—Of Dudhope school to junior instruction centre, for T.C. City Quantity S., 21, City-sq.

Failsworth.—Extensions.—And alterations to Minor-st. school, for Lancashire C.C. Stephen Wilkinson, F.R.I.B.A., County Offices, Preston. Dep. £2.

Glamorgan.—Erection.—Of police station and court at Neath, and alterations and additions at Blaenllynfi school, for C.C. Henry Rowland, clerk, Glamorgan County Hall, Cardiff.

Hillsborough.—Painting.—For Government of Northern Ireland. Secretary, Ministry of Finance (Room 128), May-st., Belfast. Dep. £1.

Lowestoft.—Erection.—Of two open-air classrooms, cloakrooms, etc., at Church-rd. school, for T.C. S. W. Mobbs, B.S. Dep. £1 1s.

Morecambe.—Houses.—Pair, in Margaret-st. R. W. Jackson, architect, 43, Church-st., Lancaster.

Sutton.—Erection.—Of 36 flats in Sydney-rd., for T.C. B.E. and S. Dep. £1 1s.

Welshpool.—Outpatients Department.—At Victoria Memorial Hospital. H. L. Fox, architect, 18, Leg-st., Oswestry. Dep. £1 1s.

West Bromwich.—Houses.—62, on various sites, for T.C. D. Ellison, B.S.

Wolverhampton.—Laying-out.—And construction of airport at Barnhurst, for T.C. H. B. Robinson, B.E. and S. Dep. £5 5s.

DECEMBER 10.

Achonry.—House.—And out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Belfast.—Additional Buildings.—And alterations to old buildings at Municipal Sanatorium, for Belfast Tuberculosis Committee. R. H. Gibson & J. MacGeagh, architects, 11, Chichester-st., Belfast. Dep. £5 5s.

Carrigans.—Houses.—3, and 2 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Cloonaraher.—House.—And out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Cosmanthorpe, nr. York.—Homestead.—For West Riding C.C., County Land Agent, County Hall, Wakefield.

Deonaltan.—Houses.—3, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Edinburgh.—Sub-station.—At Candlemaker-row, for T.C. E. J. MacRae, F.R.I.B.A., City Architect.

Essex.—Schools.—1, at Gt. Burstead and 1, at Rayleigh, for C.C. J. Stuart, F.R.I.B.A., County Architect, County Hall, Chelmsford. Dep. £2 2s. each contract.

Farranyharpy.—Houses.—Two dwelling-houses and one out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Fife.—Drill Hall.—At Pontiford school, Cowdenbeath, for C.C. George Sandilands, County Master of Works, Property and Works Dept., Education Offices, Wemyssfield, Kirkcaldy. Dep. £1 1s

Greyfield.—House.—For Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Hemsworth.—Erection.—Of 6 bungalows and 12 houses at Shafton and 36 houses at South Elmsall, for R.D.C. W. T. Lynam, E. and S.

Kilkenny.—Houses.—38, on site of Urlingford Union Buildings, including demolition and disposal of existing buildings, for County Board of Health. T. Kelly, consulting engineer, 35, Patrick-st. Dep. £5 5s.

Knockadoo.—Houses.—Two, and one out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Manchester.—Provision.—And erection of sub-station building in City-rd., Hulme, for T.C. Chief Engineer and Manager. Dep. £1 1s.

Nottingham.—Static Sub-station.—At Bath-st., for T.C. R. M. Finch, E. and S. Dep. £2.

Port Talbot.—Convenience.—Near "Grand Hotel," Port Talbot, and alterations and additions to existing convenience at Water-st., Aberavon, for T.C. B.E. Dep. £2 2s. each contract.

Oldham.—Taking.—Off existing defective wood glazing to roof of plunge bath and supplying and fixing new patent glazing, Waterhead Baths, Mortar-st., and taking off whole of roof of plunge bath and replacing same with steel-framed roof covered with new patent glazing, and existing slates and underboarding, Hollinwood Baths, Heron-st., Hollinwood, for T.C. B.E.

Portsmouth.—Cycle Stores.—For Guildhall staff on two sites adjoining Guildhall, for T.C. City Architect. Dep. £1 1s.

Rumney, nr. Cardiff.—School.—For Monmouthshire C.C. Colin L. Jones, L.R.I.B.A., County Hall, Newport. Dep. £5 5s.

Sheffield.—Painting.—At Darnall-rd. park, and Woodbourn schools, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £1.

Staffordshire.—Erection.—Of Wednesbury telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Stockton-on-Tees.—House.—Wash-house, sanitary wing and outbuildings, including demolition of existing property, at fire brigade premises, Prince Regent-st., for T.C. B.E. Dep. £2 2s.

Walsall.—Erection.—Of new homes to accommodate 400 inmates, together with workshop, piggeries and additions to nurses' home and school. H. W. Shipley, architect, Kingscourt, Bridge-st. Dep. £5 5s.

Walton-on-Thames.—Erection.—Of two pairs of semi-detached houses in West Palace Gardens, Weybridge, for U.D.C. E. and S. Dep. £2 2s.

DECEMBER 11.

Accrington.—Painting.—Of Green Haworth School, for T.C. B.E.

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Birkenhead.—Additions.—To Juvenile Employment Bureau, Albion-st., for T.C. B. Robinson, B.E.

Connah's Quay.—Wiring.—Of 132 houses at Golftyn, for U.D.C. Ernest Lloyd, clerk. Dep. £1 1s.

Erith.—Garage.—At rear of Council Offices, Bexley-rd., for U.D.C. J. H. Clayton, E. and S. Dep. £1 1s.

Hendon.—Conversion.—Of Clitterhouse farmhouse and buildings, Claremont-rd., N.W.2, into 2 flats and dressing rooms, etc., for B.C. B.E. and S. Dep. £4 4s.

Horncastle.—Additions.—And alterations to grammar school, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £2 2s.

Kidderminster.—Erection.—Of 3 houses at York-pl., Ciensmore, for T.C. J. Hawcroft, B.E., 110, Mill-st.

Middleton.—Houses.—35, on two sites at Boarshaw, for T.C. J. Pollard, L.R.I.B.A., Borough Architect. Dep. £2 2s.

Portsmouth.—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Shipley.—School.—At Wrose-rd., Wrose, for E.C. H. Dawson, S. and Architect.

Wakefield.—Alteration.—To fish and meat market, for T.C. L. Ives, City S.

Winchester.—Bath House.—And dressing room at Danemark school, Gordon-rd., for T.C. Director of Education, 3, The Square. Dep. £1 1s.

DECEMBER 12.

Armagh.—Installation.—Of electric lighting system for new P.E. school at King's Park, Lurgan, for E.C. J. St. J. Phillips, architect, 16, Donegall-sq. South, Belfast. Dep. £2 2s.

Berkhamsted.—Repair.—And decoration of 3 cottages, Highfield-rd., for U.D.C. S., 135, High-st.

Bristol.—Supply.—Of 50 reinforced concrete piles, for T.C. A. J. Newman, Chief E. and General Manager. Dep. £2 2s.

Chester.—Erection.—Of senior schools at Rudheath, nr. Northwich, for C.C. F. Anstead Browne, F.R.I.B.A. Dep. £2 2s.

Douglas (I. of M.).—Hall.—At Pulrose Park, for T.C. B.E. Dep. £2 2s.

Eastbourne.—Erection.—Of café-restaurant and terracing, public conveniences, bowls pavilion and locker and dressing rooms in Prince's Park, for C.B. T.C. Dep. £1 1s.

Evesham and Pershore.—Painting.—And repairs at Smallpox Hospital, Haselor, for Committee. J. Abbott, Municipal Offices. Dep. £1 1s.

Haverhill.—Houses.—8, at Mill Hill, for U.D.C. S. Dep. £1 1s.

Ipswich.—Branch Library.—In Clapgate-ln., for T.C. E. McLauchlan, B.S. and Water E. Dep. £2 2s.

Kirkcaldy.—Bungalow.—Near Holl reservoir, and alterations and additions to house at Holl and house at Lothrie, for T.C. Deas & Bertram, L. & A.R.I.B.A., Central-chams.

London, W.—Additions.—To structure of electric sub-station at Old Oak Common, for G.W. Rly. Engineer, Paddington Station, London, W.2. Dep. £2 2s.

Portsmouth.—Installation.—Of heating and water service at H.P.O. and telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Swanage.—Erection.—Of telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

DECEMBER 13.

Croydon.—Erection.—Of 24 flats and maisonnettes in Bridge-pl., for C.B. T.C. Dep. £2 2s.

Durham.—Alterations.—And additions to Bishop Auckland girls' school, for C.C. F. Willey, F.R.I.B.A.

***Hendon.**—Remodelling and rebuilding buildings and surrounds at open-air swimming pool, Goldsmith-av., N.W.4, for B.C. B.E. and S. Dep. £4 4s.

Nottingham.—Houses.—57, in Sneinton Boulevard area, for T.C. E. Phillips, housing architect, Exchange-bldgs. East. Dep. £1.

Roscommon.—Hospital.—Doctor's house, nurse's home, etc., for Board of Health. J. R. Boyd Barrett, A.R.I.B.A., 61, South-Mall, Cork. Dep. £10 10s.

DECEMBER 14.

Edinburgh.—Houses.—182, comprising seventh development of Granton Mains housing scheme, and waiting-room and alterations to gateway at main entrance to city hospital, Comiston-rd., for T.C. E. J. MacRae, F.R.I.B.A., City Architect, City-chams.

Inverness.—Work.—In connection with housing scheme at Benavie, for C.C. C.S., Ardross-st., Inverness.

Otley.—Bungalows.—10, on Well Croft estate, for U.D.C. S.

Peterhead.—Alterations.—And additions to premises, Wilson-st., for junior instruction centre, for Aberdeen E.C. E. L. Williamson, architect, 154, Union-st., Aberdeen.

Solihull.—Shelter.—And convenience on Olton recreation ground, Lyndon-rd., Olton, for U.D.C. R. Dunn, E. and S. Dep. £1.

Tipton.—Houses.—5 pairs of semi-detached three-bedroom parlour-type houses on Horseley Heath housing site, for U.D.C. Charles R. Gaillie, A.R.I.B.A., Housing Director. Dep. £2 2s.

Totnes.—Erection.—Of 3 single-bedroom bungalows and 8 three-bedroom non-parlour type houses, at South Brent, for R.D.C. A. F. Steele, S., Trelake, Bridgetown, Totnes.

Wayland.—Houses.—12, in Jubilee-av., East Harling, for R.D.C. S.

***Winchester.**—Alterations.—And additions to Corn Exchange, Jewry-st., for converting same into public library, for T.C. B.E. Dep. £1 1s.

DECEMBER 16.

Aberdeen.—Shop.—In George-st., for Menzies & Sons, Ltd., Dundee. G. Bennett Mitchell & Son, architects, 1, West Craibstone-st.

Alsagers Bank.—Houses.—32, for Newcastle-under-Lyme R.D.C. A. P. Lovatt, architect, 2, King-st., Newcastle, Staffs. Dep. £2 2s.

***Bath.**—Demolition.—And construction of premises at corner of Westgate-st. and Westgate-bldgs., for T.C. City E. Dep. £3 3s.

***Bedale.**—Houses.—14, for R.D.C. J. R. White, F.R.I.B.A., Northallerton.

Benfleet.—Central Heating.—And hot-water supply at Hadleigh fire station, for U.D.C. Clerk, Thundersley, Essex. Dep. £1 1s.

Birmingham.—Extension.—Of male patients' general day room and erection of new stores at infirmary, for P.A.C. Public Assistance Officer, 102, Edmund-st. Dep. £1 1s.

Carrowmena.—School.—For Londonderry and Limavady Regional E.C. Chief Architect, Ministry of Finance (Works Department), Limavady. Dep. £2 2s.

Castletown.—Houses.—In Malew-st., for Commissioners. A. J. Davidson, architect, Talbot-chmbrs., 16-18, Athol-st., Douglas, I.M. Dep. £2 2s.

Colchester.—Houses.—22, for T.C. B.E.

Dalton.—Erection.—Of 20 houses at Dalton, 20 at Lindal and 7 at Askam, for U.D.C. E. B. Jackson, S. Dep. £2 2s.

Dewsbury.—Painting.—Of Healey bridge over river Calder, for T.C. B.E. and S., Municipal-bldgs., Halifax-rd.

Epsom.—Construction.—Of lodge, convenience and extension to existing convenience, etc., at cemetery, for U.D.C. E. and S. Dep. £1 1s.

Ewell.—Convenience.—At Ewell Depot, for Epsom and Ewell U.D.C. N. Auty, E. and S. Dep. £1 1s.

Hendon.—Fencing.—At The Hyde, Brent Hill and Clitterhouse housing estates, for T.C. A. O. Knight, B.E. and S. Dep. £2 2s.

Ilford.—Erection.—Of school at junction of Aldborough-rd. and Eastern-ave., Newbury Park, for E.C. L. E. J. Reynolds, architect. Dep. £5 5s.

***Manchester.**—Provision.—And erection of sub-station buildings in Midland-st, Ardwick, Grangethorpe-dr., Burnage, Lewis-rd., Droylsden, for T.C. H. C. Lamb. Dep. £1 1s.

Newquay.—Houses.—Fences, paths, etc., at Trencreek, for U.D.C. C. W. Walters, E. and S. Dep. £5 5s.

Pewsey.—Houses.—6, at Upavon, for R.D.C. J. Black, building surveyor. Dep. £2 2s.

Raunds.—Houses.—24, on Crow Spinney housing site, for U.D.C. G. Whittam, E. and S. Dep. £2 2s.

Restronguet.—Residence.—Alfred J. Cornelius, F.R.I.B.A., architect, Truro.

***Slough.**—Erection.—Of Council Depot at Salt Hill, for U.D.C. Alan Bromly, A.M.I.C.E. Dep. £1 1s.

Southport.—Demolition.—Of 4 stone-built cottages at Scarth Hill, Ormskirk, and removal and disposal of material, for District Water Board. Engineer and Manager, 14, Portland-st. Dep. £1.

Stratford-on-Avon.—Houses.—2, at Scholar's-lane, for T.C. F. W. Jones, B.S. Dep. £1 1s.

Sunderland.—Alterations.—And extensions to "Thornfield," Sea View-rd., for T.C. Education Architect, 15, John-st. Dep. £1 1s.

West Sussex.—Erection.—Of (1) police sub-station at Pulborough; (2) pair of police cottages at Storrington, for C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s. each.

DECEMBER 17.

Cleethorpes.—Carrying Out.—Of piling and reinforced concrete foundations to proposed electricity showrooms, for U.D.C. L. W. Pye, E. and S.

Liskeard.—Bottling Store.—At brewery. H. R. Venning, architect, Midland Bank Chambers.

***Norwich.**—Erection.—Of 66 flats on Cowgate Barrack-st. clearance area, for T.C. C.E. Dep. £2.

Sheffield.—Houses.—378, on Shirecliffe estate: building scheme No. 4, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Southampton.—Sports Centre.—At Bassett, for T.C. B.E. Dep. £3 3s.

Widnes.—Erection.—Of 156 dwelling houses on Lugsdale-rd rehousing estate, for T.C. James Holt, B.E. Dep. £2 2s.

***Woodford.**—Installation.—Of low-pressure heating system to Council Chamber, for Wanstead and Woodford U.D.C. E. and S. Dep. £2 2s

DECEMBER 18.

Castleford.—Houses.—138, at Redhill housing estate, for U.D.C. Charles R. Smith, E. and S. Dep. £3 3s.

Painswick (Glos.).—Erection.—Of telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Liverpool.—Shops.—20, and residences, Longview Farm estate, for T.C. Director of Housing, Municipal-annexe, Dale-st. Dep. £1 1s.

Liverpool.—Houses.—10 parlour, and 20 cottage flats at Rose-st., Woolton, for T.C. Director of Housing, Municipal-annexe, Dale-st. Dep. £1 1s.

Tavistock.—Houses.—2, at Bere Alston, for R.D.C. T. H. Harris, Council Offices.

DECEMBER 19.

Derbyshire.—Police Houses.—At Repton, Hulland Ward and Walton-on-Trent, for C.C. County Architect, County Offices, Derby. Dep. £2 2s.

London.—Extension.—To West Norwood library, for Lambeth B.C. B.E., Brixton Hill, S.W.2. Dep. £2 2s.

Lothingland.—Erection.—Of 12 houses in Fieldlane, Kessingland, for R.D.C. Roberts, Green & Richards, architects, London-rd. North, Lowestoft. Dep. £1 1s.

Luton.—Erection.—Of 56 houses and flats in Solway-rd. on Bishopscote-rd. housing site, for T.C. W. H. Guest Hubbard, L.R.I.B.A., architect, "Bridge House," 21, New Bedford-rd. Dep. £2 2s. £2 2s.

Newcastle-upon-Tyne.—Houses.—119, on Scotswood estate, and 4, on Two Ball Lonnen estate, for T.C. Housing Architect, 18, Cloth Market. Dep. £2 2s.

Nottingham.—Filter House.—At Highfields swimming baths, University Boulevard, for T.C. R. M. Finch, City E. and S. Dep. £2.

DECEMBER 20.

Howden.—Mortuary.—For R.D.C. J. F. Chambers, architect, 87, Boothferry-rd., Goole.

***Lymington.**—Erection.—Of 54 dwelling houses, for T.C. T.C. Dep. £1 1s.

Northwich.—Houses.—70, in Weaverham, and 9, at Comberbach, for Northwich R.D.C. J. Birtwistle, S. Dep. £3 3s.

West Kesteven.—Houses.—16, in 4 villages, for R.D.C. Housing Architect's Office, Council Offices, 19, Watergate, Grantham. Dep. £1 1s.

Wincanton.—Housing.—Wincanton, 40 houses, and Shepton Montague, 2 houses, for R.D.C. R. Barnshaw, architect, Council Offices. Dep. £2 2s.

DECEMBER 21.

***Cross Keys, near Newport, Mon.**—Erection.—Of sorting office and garage for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

DECEMBER 23.

***Dunstable.**—Erection.—Of underground convenience, corner of Watling-st. and Houghton-rd., for T.C. B.S. Dep. £2 2s.

***London.**—Erection.—Of district library in Ravensdale-ave., N.12, for Finchley B.C. B.E. and S., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

***London.**—Alterations.—And additions to Northside School, Albert-st., for Finchley Borough. B.E. and S., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

***Norwich.**—Extensions.—To nurses home, at Poor Law Institution, for T.C. C.E. Dep. £2 2s.

Southampton.—Farm Building.—And alterations to existing farm buildings at Muccleshell, Bournemouth, for C.C. C. F. Hughes, County Land Officer, The Castle, Winchester. Dep. £1.

DECEMBER 24.

Middleton-in-Wharfdale.—Internal Decorations.—And external painting at sanatorium, nr. Ilkley, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

DECEMBER 30.

***Littleover.**—Erection.—Of pavilion in playing fields near Harpur-av., for Parish Council. A. Eaton & Son, F.R.I.B.A., 6, The Strand, Derby. Dep. £2 2s.

Manchester.—Demolition.—Of 282 houses and 5 business premises on West Gorton clearance area, for T.C. Housing Director.

Margate.—Extensions.—To Buenos Ayres public lavatories, for T.C. Ernest A. Borg, B.E., 40, Grosvenor-pl. Dep. £1 1s.

DECEMBER 31.

***Brigg.**—Erection.—Of Post Office and Telephone Exchange and alterations to existing building, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

***Canterbury.**—Erection.—Of Post Office Engineering Garage, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Gipping.—Mortuary.—Near Needham Market, for R.D.C. H. C. Riches, Building S., Needham Market. Dep. £2.

***Wimbledon.**—Site Works, etc.—In connection with transformer station at Dukes-av., New Malden, for T.C. Chief E. and Manager.

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***Clitheroe.**—Extensions.—And alterations to Employment Exchange, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

JANUARY 7.

***Congleton.**—Erection.—Of Senior Elementary School, etc., in Waggs-rd., Congleton, for B.C. B. Widdows, L.R.I.B.A., of Messrs. Naylor, Sale & Widdows, St. Mary's Gate, Derby. Dep. £2 2s.

Prescot.—Erection.—Of 56 houses at Shaw-lane, for U.D.C. Surveyor, 2, West-st. Dep. £1.

NO DATE.

***Cambridge.**—Erection.—Of village college at Bottisham, for E.C. County Architect. Dep. £2 2s.

***Kingston-upon-Thames.**—(1) Temporary diversion of Hoggemill stream, (2) excavation, foundation works and superstructure in connection with proposed baths, for T.C. T.C.

MATERIALS, etc.

DECEMBER 9.

Dewsbury.—Steel Window Frames.—For T.C. Borough Architect and Buildings Surveyor.

DECEMBER 12.

Armagh.—Sanitary Ware.—And fittings at new P.E. school, King's-pk., Lurgan, for E.C. J. St. J. Phillips, 16, Donegall-st. South, Belfast.

Dorset.—Road Materials.—For C.C. C.S., Dorchester.

DECEMBER 13.

Rowley Regis.—Road Materials.—For T.C. C. Buckley, T.C.

DECEMBER 14.

Kent.—Broken Roadstone, etc.—For C.C. C.S., St. Peter-st., Maidstone.

Kent.—Tar Emulsions, etc.—For C.C. C.S., St. Peter-st., Maidstone.

West Sussex.—Highway Materials.—For C.C. C.S., Southgate House, Chichester.

ENGINEERING, IRON AND STEEL.

DECEMBER 9.

Bedford.—Reservoir.—For T.C. Charles H. Blakeway, B.E. and S. Dep. £5.

Glanford Brigg.—Water Supply.—For R.D.C. John H. Haiste, chartered civil engineer, Middleton-chambers, Lowgate, Hull. Dep. £3 each.

Manchester.—Installation.—Of electric passenger lift at chief fire station, for T.C. City Architect. Dep. £1 1s.

DECEMBER 10.

Bredbury and Romiley.—Sewerage.—Sewage disposal and surface water drainage, for U.D.C. D. Balfour & Sons, civil engineers, 3, St. Nicholas-buildings, Newcastle-on-Tyne. Dep. £10.

DECEMBER 12.

Gravesend.—Drainage.—Main drainage through portion of Old Denton, for T.C. F. T. Grant, E. Dep. £5.

DECEMBER 14.

Newcastle-under-Lyme.—Water Supply.—Contract No. 2, for R.D.C. A. H. S. Waters, consulting engineer, 25, Temple-row, Birmingham. Dep. £3 3s.

West Riding.—Road and Bridge Works.—In various parts of county, for C.C. C.S., Wakefield. Dep. £1 each.

ROAD, SEWERAGE AND WATER WORKS.

DECEMBER 9.

Bournemouth.—Making-up.—Of Clingan-rd., and William-rd., for T.C. F. P. Dolamore, B.E. Dep. £1 1s.

Southampton.—Works.—In various roads, for T.C. B.E. Dep. £2 2s.

Wimbledon.—Laying.—And maintaining wood block paving on Wimbledon Station bridge and approaches, for T.C. B.E. and S. Dep. £1 1s.

Wimbledon.—Making-up.—Of Wool-rd., for T.C. B.E. and S. Dep. £2 2s.

DECEMBER 10.

Dover.—Widening.—And improvement of Castle Hill-rd., for T.C. Wm. Boulton Smith, B.E. and S. Dep. £2 2s.

Lewes.—Stoneware.—And cast-iron sewers, for T.C. C. T. Butler, B.S. Dep. £2 2s.

Sandown-Shanklin.—Sewer.—In Green-lane, Landguard, for U.D.C. General Surveyor, Town Hall.

DECEMBER 11.

Dursley.—Mains.—440 yds. of 3 in. and 900 yds. of 4 in. spun cast-iron mains, and other works incidental thereto, for extensions to Council's housing site at Highfields and from Whiteway reservoir to existing Highfields site, Dursley, for R.D.C. C. Workman, Waterworks Inspector. Dep. £1 1s.

London (Edmonton).—Streets Works.—In various roads, for U.D.C. E. and S., E. J. Willis. Dep. £2 2s.

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272 CROWN STREET LIVERPOOL 7

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

DECEMBER 9.

Alnwick.—Cottages.—6, for aged workers at Shilbottle, for R.D.C. J. Wightman Douglas, chartered architect and chartered surveyor, 27, Bondgate Without.

Basford.—Painting.—Of various houses, for R.D.C. J. J. Ellis, Housing Architect, Rock House, Stockhill-ln. Dep. £1 1s.

Birmingham.—External.—And internal painting at post office stores, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Bradford.—Alterations.—And additions to administrative cottage, aged people's homes, Daisy Hill, for T.C. City Architect.

Camelford.—Alterations.—And additions to two cottages at St. Breward and one at Treknow, Tintagel, for R.D.C. A. R. Hansford, Building S.

Chesterfield.—Alterations.—To low-pressure hot-water heating system at Girls' High School, for Derbyshire E.C. G. H. Widdows, County Architect, County Offices, Derby. Dep. £2 2s.

Cuckfield.—Cottages.—10 2-bedroomed, 32 3-bedroomed, 6 4-bedroomed and 1 block of 4 flats at Hurstpierpoint, also 4 cottages at Balcombe, for R.D.C. A. Hutchings, S., Boltro-rd., Haywards Heath. Dep. £2 2s

Davyhulme.—Laundry.—At Park hospital, for Lancashire C.C. Stephen Wilkinson, County Architect, County Hall, Preston. Dep. £2.

Docking.—Houses.—8, at Sedgeford, for R.D.C. J. H. Marshall, clerk. Dep. £1 1s.

Droylsden.—Library.—For Lancashire C.C. County Architect, Stephen Wilkinson, F.R.I.B.A., County Offices, Preston. Dep. £2.

Dumbarton.—Alterations.—At head post office, College-st., for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1 1s.

Dundee.—Conversion.—Of Dudhope school to junior instruction centre, for T.C. City Quantity S., 21, City-sq.

Failsworth.—Extensions.—And alterations to Minor-st. school, for Lancashire C.C. Stephen Wilkinson, F.R.I.B.A., County Offices, Preston. Dep. £2.

Glamorgan.—Erection.—Of police station and court at Neath, and alterations and additions at Blaenllynfi school, for C.C. Henry Rowland, clerk, Glamorgan County Hall, Cardiff.

Hillsborough.—Painting.—For Government of Northern Ireland. Secretary, Ministry of Finance (Room 128), May-st., Belfast. Dep. £1.

Lowestoft.—Erection.—Of two open-air classrooms, cloakrooms, etc., at Church-rd. school, for T.C. S. W. Mobbs, B.S. Dep. £1 1s.

Morecambe.—Houses.—Pair, in Margaret-st. R. W. Jackson, architect, 43, Church-st., Lancaster.

Sutton.—Erection.—Of 36 flats in Sydney-rd., for T.C. B.E. and S. Dep. £1 1s.

Welshpool.—Outpatients Department.—At Victoria Memorial Hospital. H. L. Fox, architect, 18, Leg-st., Oswestry. Dep. £1 1s.

West Bromwich.—Houses.—82, on various sites, for T.C. D. Ellison, B.S.

Wolverhampton.—Laying-out.—And construction of airport at Barnhurst, for T.C. H. B. Robinson, B.E. and S. Dep. £5 5s.

DECEMBER 10.

Achonry.—House.—And out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Belfast.—Additional Buildings.—And alterations to old buildings at Municipal Sanatorium, for Belfast Tuberculosis Committee. R. H. Gibson & J. MacGeagh, architects, 11, Chichester-st., Belfast. Dep. £5 5s.

Carrigane.—Houses.—3, and 2 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Cloonaraher.—House.—And out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Copmanthorpe, nr. York.—Homestead.—For West Riding C.C., County Land Agent, County Hall, Wakefield.

Doonaltan.—Houses.—2, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Edinburgh.—Sub-station.—At Candlemaker-row, for T.C. E. J. MacRae, F.R.I.B.A., City Architect.

Essex.—Schools.—1, at Gt. Burstead and 1, at Rayleigh, for C.C. J. Stuart, F.R.I.B.A., County Architect, County Hall, Chelmsford. Dep. £2 2s. each contract.

Farranyharpy.—Houses.—Two dwelling-houses and one out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Fife.—Drill Hall.—At Foulford school, Cowdenbeath, for C.C. George Sandilands, County Master of Works, Property and Works Dept., Education Offices, Wemyssfield, Kirkcaldy. Dep. £1 1s

Greyfield.—House.—For Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Hemsworth.—Erection.—Of 6 bungalows and 12 houses at Shafton and 36 houses at South Elmsall, for R.D.C. W. T. Lynam, E. and S.

Kilkenny.—Houses.—38, on site of Urlingford Union Buildings, including demolition and disposal of existing buildings, for County Board of Health. T. Kelly, consulting engineer, 35, Patrick-st. Dep. £5 5s.

Knockadoo.—Houses.—Two, and one out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Manchester.—Provision.—And erection of sub-station building in City-rd., Hulme, for T.C. Chief Engineer and Manager. Dep. £1 1s.

Nottingham.—Static Sub-station.—At Bath-st., for T.C. R. M. Finch, E. and S. Dep. £2.

Port Talbot.—Convenience.—Near "Grand Hotel," Port Talbot, and alterations and additions to existing convenience at Water-st., Aberavon, for T.C. B.E. Dep. £2 2s. each contract.

Oldham.—Taking.—Off existing defective wood glazing to roof of plunge bath and supplying and fixing new patent glazing, Waterhead Baths, Mortar-st., and taking off whole of roof of plunge bath and replacing same with steel-framed roof covered with new patent glazing, and existing slates and underboarding, Hollinwood Baths, Heron-st., Hollinwood, for T.C. B.E.

Portsmouth.—Cycle Stores.—For Guildhall staff on two sites adjoining Guildhall, for T.C. City Architect. Dep. £1 1s.

Rumney, nr. Cardiff.—School.—For Monmouthshire C.C. Colin L. Jones, L.R.I.B.A., County Hall, Newport. Dep. £5 5s.

Sheffield.—Painting.—At Darnall-rd. park, and Woodbourn schools, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £1.

Staffordshire.—Erection.—Of Wednesbury telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Stockton-on-Tees.—House.—Wash-house, sanitary wing and outbuildings, including demolition of existing property, at fire brigade premises, Prince Regent-st., for T.C. B.E. Dep. £2 2s.

Walsall.—Erection.—Of new homes to accommodate 400 inmates, together with workshop, piggeries and additions to nurses' home and school. H. W. Shipley, architect, Kingscourt, Bridge-st. Dep. £5 5s.

Walton-on-Thames.—Erection.—Of two pairs of semi-detached houses in West Palace Gardens, Weybridge, for U.D.C. E. and S. Dep. £2 2s.

DECEMBER 11.

Accrington.—Painting.—Of Green Haworth School, for T.C. B.E.

THE
FEDERATED EMPLOYERS'
Insurance Association Ltd.
HEAD OFFICE
8, King St., Manchester, 2
The Leading Office for
Contract Guarantee Bonds
All Classes of Insurance Transacted
(Except Life and Marine).
Independent Office
Founded by Builders for Builders

Birkenhead.—Additions.—To Juvenile Employment Bureau, Albion-st., for T.C. B. Robinson, B.E.

Connah's Quay.—Wiring.—Of 132 houses at Golftyn, for U.D.C. Ernest Lloyd, clerk. Dep. £1 1s.

Erith.—Garage.—At rear of Council Offices, Bexley-rd., for U.D.C. J. H. Clayton, E. and S. Dep. £1 1s.

Hendon.—Conversion.—Of Clitterhouse farmhouse and buildings, Claremont-rd., N.W.2, into 2 flats and dressing rooms, etc., for B.C. B.E. and S. Dep. £4 4s.

Horncastle.—Additions.—And alterations to grammar school, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £2 2s.

Kidderminster.—Erection.—Of 3 houses at York-pl., Clensmore, for T.C. J. Hawcroft, B.E., 110, Mill-st.

Middleton.—Houses.—35, on two sites at Boarshaw, for T.C. J. Pollard, L.R.I.B.A., Borough Architect. Dep. £2 2s.

Portsmouth.—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Shipley.—School.—At Wrose-rd., Wrose, for E.C. H. Dawson, S. and Architect.

Wakefield.—Alteration.—To fish and meat market, for T.C. L. Ives, City S.

Winchester.—Bath House.—And dressing room at Danemark school, Gordon-rd., for T.C. Director of Education, 3, The Square. Dep. £1 1s.

DECEMBER 12.

Armagh.—Installation.—Of electric lighting system for new P.E. school at King's Park, Lurgan, for E.C. J. St. J. Phillips, architect, 16, Donegall-sq. South, Belfast. Dep. £2 2s.

Berkhamsted.—Repair.—And decoration of 3 cottages, Highfield-rd., for U.D.C. S., 135, High-st.

Bristol.—Supply.—Of 50 reinforced concrete piles, for T.C. A. J. Newman, Chief E. and General Manager. Dep. £2 2s.

Chester.—Erection.—Of senior schools at Rudheath, nr. Northwich, for C.C. F. Anstead Browne, F.R.I.B.A. Dep. £2 2s.

Douglas (I. of M.).—Hall.—At Pulrose Park, for T.C. B.E. Dep. £2 2s.

Eastbourne.—Erection.—Of café-restaurant and terracing, public conveniences, bowls pavilion and locker and dressing rooms in Prince's Park, for C.B. T.C. Dep. £1 1s.

Evesham and Pershore.—Painting.—And repairs at Smallpox Hospital, Haselor, for Committee. J. Abbott, Municipal Offices. Dep. £1 1s.

Haverhill.—Houses.—8, at Mill Hill, for U.D.C. S. Dep. £1 1s.

Ipswich.—Branch Library.—In Clapgate-ln., for T.C. E. McLauchlan, B.S. and Water E. Dep. £2 2s.

Kirkcaldy.—Bungalow.—Near Holl reservoir, and alterations and additions to house at Holl and house at Lothrie, for T.C. Deas & Bertram, L. & A.R.I.B.A., Central-chams.

London, W.—Additions.—To structure of electric sub-station at Old Oak Common, for G.W. Rly. Engineer, Paddington Station, London, W.2. Dep. £2 2s.

Portsmouth.—Installation.—Of heating and water service at H.P.O. and telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Swanage.—Erection.—Of telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

DECEMBER 13.

Croydon.—Erection.—Of 24 flats and maisonnettes in Bridge-pl., for C.B. T.C. Dep. £2 2s.

Durham.—Alterations.—And additions to Bishop Auckland girls' school, for C.C. F. Willey, F.R.I.B.A.

***Hendon.**—Remodelling and rebuilding buildings and surrounds at open-air swimming pool, Goldsmith-av., N.W.4, for B.C. B.E. and S. Dep. £4 4s.

Nottingham.—Houses.—57, in Sneinton Boulevard area, for T.C. E. Phillips, housing architect, Exchange-bldgs. East. Dep. £1.

Roscommon.—Hospital.—Doctor's house, nurse's home, etc., for Board of Health. J. R. Boyd Barrett, A.R.I.B.A., 61, South-Mall, Cork. Dep. £10 10s.

DECEMBER 14.

Edinburgh.—Houses.—182, comprising seventh development of Granton Mains housing scheme, and waiting-room and alterations to gateway at main entrance to city hospital, Comiston-rd., for T.C. E. J. MacRae, F.R.I.B.A., City Architect, City-chams.

Inverness.—Work.—In connection with housing scheme at Benavie, for C.C. C.S., Ardross-st., Inverness.

Otley.—Bungalows.—10, on Well Croft estate, for U.D.C. S.

Peterhead.—Alterations.—And additions to premises, Wilson-st., for junior instruction centre, for Aberdeen E.C. E. L. Williamson, architect, 154, Union-st., Aberdeen.

Solihull.—Shelter.—And convenience on Olton recreation ground, Lyndon-rd., Olton, for U.D.C. R. Dunn, E. and S. Dep. £1.

Tipton.—Houses.—5 pairs of semi-detached three-bedroom parlour-type houses on Horseley Heath housing site, for U.D.C. Charles R. Gaillie, A.R.I.B.A., Housing Director. Dep. £2 2s.

Totnes.—Erection.—Of 3 single-bedroom bungalows and 8 three-bedroom non-parlour type houses, at South Brent, for R.D.C. A. F. Steele, S., Trelake, Bridgetown, Totnes.

Wayland.—Houses.—12, in Jubilee-av., East Harling, for R.D.C. S.

***Winchester.**—Alterations.—And additions to Corn Exchange, Jewry-st., for converting same into public library, for T.C. B.E. Dep. £1 1s.

DECEMBER 16.

Aberdeen.—Shop.—In George-st., for Menzies & Sons, Ltd., Dundee. G. Bennett Mitchell & Son, architects, 1, West Craibstone-st.

Alsagers Bank.—Houses.—32, for Newcastle-under-Lyme R.D.C. A. P. Lovatt, architect, 2, King-st., Newcastle, Staffs. Dep. £2 2s.

***Bath.**—Demolition.—And construction of premises at corner of Westgate-st. and Westgate-bldgs., for T.C. City E. Dep. £3 3s.

***Bedale.**—Houses.—14, for R.D.C. J. R. White, F.R.I.B.A., Northallerton.

Benfleet. — Central Heating. — And hot-water supply at Hadleigh fire station, for U.D.C. Clerk, Thundersley, Essex. Dep. £1 1s.

Birmingham.—Extension.—Of male patients' general day room and erection of new stores at Infirmary, for P.A.C. Public Assistance Officer, 102, Edmund-st. Dep. £1 1s.

Carrowmena.—School.—For Londonderry and Limavady Regional E.C. Chief Architect, Ministry of Finance (Works Department), Limavady. Dep. £2 2s.

Castletown.—Houses.—In Malew-st., for Commissioners. A. J. Davidson, architect, Talbot-chmbrs., 16-18, Athol-st., Douglas, I.M. Dep. £2 2s.

Colchester.—Houses.—22, for T.C. B.E.

Dalton.—Erection.—Of 20 houses at Dalton, 20 at Lindal and 7 at Askam, for U.D.C. E. B. Jackson, S. Dep. £2 2s.

Dewsbury.—Painting.—Of Healey bridge over river Calder, for T.C. B.E. and S., Municipal-bldgs., Halifax-rd.

Epsom. — Construction. — Of lodge, convenience and extension to existing convenience, etc., at cemetery, for U.D.C. E. and S. Dep. £1 1s.

Ewell.—Convenience.—At Ewell Depot, for Epsom and Ewell U.D.C. N. Auty, E. and S. Dep. £1 1s.

Hendon.—Fencing.—At The Hyde, Brent Hill and Clitterhouse housing estates, for T.C. A. O. Knight, B.E. and S. Dep. £2 2s.

Ilford. — Erection. — Of school at junction of Aldborough-rd. and Eastern-ave., Newbury Park, for E.C. L. E. J. Reynolds, architect. Dep. £5 5s.

***Manchester.**—Provision.—And erection of sub-station buildings in Midland-st, Ardwick, Grangethorpe-dr., Burnage, Lewis-rd., Droylsden, for T.C. H. C. Lamb. Dep. £1 1s.

Newquay.—Houses.—Fences, paths, etc., at Trencreek, for U.D.C. C. W. Walters, E. and S. Dep. £5 5s.

Pewsey.—Houses.—6, at Upavon, for R.D.C. J. Black, building surveyor. Dep. £2 2s.

Raunds.—Houses.—24, on Crow Spinney housing site, for U.D.C. G. Whittam, E. and S. Dep. £2 2s.

Restronguet.—Residence.—Alfred J. Cornelius, F.R.I.B.A., architect, Truro.

***Slough.**—Erection.—Of Council Depot at Salt Hill, for U.D.C. Alan Bromly, A.M.I.C.E. Dep. £1 1s.

Southport.—Demolition.—Of 4 stone-built cottages at Scarth Hill, Ormskirk, and removal and disposal of material, for District Water Board. Engineer and Manager, 14, Portland-st. Dep. £1.

Stratford-on-Avon.—Houses.—2, at Scholar's-lane, for T.C. F. W. Jones, B.S. Dep. £1 1s.

Sunderland. — Alterations.—And extensions to "Thornfield," Sea View-rd., for T.C. Education Architect, 15, John-st. Dep. £1 1s.

West Sussex.—Erection.—Of (1) police sub-station at Pulborough; (2) pair of police cottages at Storrington, for C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s. each.

DECEMBER 17.

Cleethorpes.—Carrying Out.—Of piling and reinforced concrete foundations to proposed electricity showrooms, for U.D.C. L. W. Pye, E. and S.

Liskeard.—Bottling Store.—At brewery, H. R. Venning, architect, Midland Bank Chambers.

***Norwich.**—Erection.—Of 66 flats on Cowgate Barrack-st. clearance area, for T.C. C.E. Dep. £2.

Sheffield.—Houses.—378, on Shirecliffe estate: building scheme No. 4, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Southampton.—Sports Centre.—At Bassett, for T.C. B.E. Dep. £3 3s.

Widnes.—Erection.—Of 156 dwelling houses on Lugsdale-rd rehousing estate, for T.C. James Holt, B.E. Dep. £2 2s.

***Woodford.**—Installation.—Of low-pressure heating system to Council Chamber, for Wanstead and Woodford U.D.C. E. and S. Dep. £2 2s

DECEMBER 18.

Castleford.—Houses.—138, at Redhill housing estate, for U.D.C. Charles R. Smith, E. and S. Dep. £3 3s.

Painswick (Glos.).—Erection.—Of telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Liverpool.—Shops.—20, and residences, Longview Farm estate, for T.C. Director of Housing, Municipal-annexe, Dale-st. Dep. £1 1s.

Liverpool.—Houses.—10 parlour, and 20 cottage flats at Rose-st., Woolton, for T.C. Director of Housing, Municipal-annexe, Dale-st. Dep. £1 1s.

Tavistock.—Houses.—2, at Bere Alston, for R.D.C. T. H. Harris, Council Offices.

DECEMBER 19.

Derbyshire.—Police Houses.—At Repton, Hulland Ward and Walton-on-Trent, for C.C. County Architect, County Offices, Derby. Dep. £2 2s.

London.—Extension.—To West Norwood library, for Lambeth B.C. B.E., Brixton Hill, S.W.2. Dep. £2 2s.

Lothingland.—Erection.—Of 12 houses in Field-lane, Keseingland, for R.D.C. Roberts, Green & Richards, architects, London-rd. North, Lowestoft. Dep. £1 1s.

Luton.—Erection.—Of 56 houses and flats in Solway-rd. on Bishopscote-rd. housing site, for T.C. W. H. Guest Hubbard, L.R.I.B.A., architect, "Bridge House," 21, New Bedford-rd. Dep. £2 2s. £2 2s.

Newcastle-upon-Tyne.—Houses.—119, on Scotswood estate, and 4, on Two Ball Lonnen estate, for T.C. Housing Architect, 18, Cloth Market. Dep. £2 2s.

Nottingham.—Filter House.—At Highfields swimming baths, University Boulevard, for T.C. R. M. Finch, City E. and S. Dep. £2.

DECEMBER 20.

Howden. — Mortuary. — For R.D.C. J. F. Chambers, architect, 87, Boothferry-rd., Goole.

***Lymington.**—Erection.—Of 54 dwelling houses, for T.C. T.C. Dep. £1 1s.

Northwich.—Houses.—70, in Weaverham, and 8, at Comberbach, for Northwich R.D.C. J. Birtwistle, S. Dep. £3 3s.

West Kesteven.—Houses.—16, in 4 villages, for R.D.C. Housing Architect's Office, Council Offices, 19, Watergate, Grantham. Dep. £1 1s.

Wincanton.—Housing.—Wincanton, 40 houses, and Shepton Montague, 2 houses, for R.D.C. R. Barnshaw, architect, Council Offices. Dep. £2 2s.

DECEMBER 21.

***Gross Keys, near Newport, Mon.**—Erection.—Of sorting office and garage for H.M.O.W. Room 66d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

DECEMBER 23.

***Dunstable.**—Erection.—Of underground convenience, corner of Watling-st. and Houghton-rd., for T.C. B.S. Dep. £2 2s.

***London.**—Erection.—Of district library in Ravensdale-ave., N.12, for Finchley B.C. B.E. and S., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

***London.**—Alterations.—And additions to Northside School, Albert-st., for Finchley Borough. B.E. and S., 9, The Hawthorns, Regent's Park-rd., N.3. Dep. £1.

***Norwich.**—Extensions.—To nurses home, at Poor Law Institution, for T.C. C.E. Dep. £2 2s.

Southampton.—Farm Building.—And alterations to existing farm buildings at Muccleshell, Bournemouth, for C.C. C. F. Hughes, County Land Officer, The Castle, Winchester. Dep. £1.

DECEMBER 24.

Middleton-in-Wharfdale.—Internal Decorations.—And external painting at sanatorium, nr. Ilkley, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

DECEMBER 26.

***Littleover.**—Erection.—Of pavilion in playing fields near Harpur-av., for Parish Council. A. Eaton & Son, F.R.I.B.A., 6, The Strand, Derby. Dep. £2 2s.

Manchester.—Demolition.—Of 292 houses and 5 business premises on West Gorton clearance area, for T.C. Housing Director.

Margate.—Extensions.—To Buenos Ayres public lavatories, for T.C. Ernest A. Borg, B.E., 40, Grosvenor-pl. Dep. £1 1s.

DECEMBER 31.

***Brigg.**—Erection.—Of Post Office and Telephone Exchange and alterations to existing building, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

***Canterbury.**—Erection.—Of Post Office Engineering Garage, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Gipping.—Mortuary.—Near Needham Market, for R.D.C. R. C. Riches, Building S., Needham Market. Dep. £2.

***Wimbledon.**—Site Works, etc.—In connection with transformer station at Dukes-av., New Malden, for T.C. Chief E. and Manager.

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***Clitheroe.**—Extensions.—And alterations to Employment Exchange, for H.M.O.W. Room 65d, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

JANUARY 7.

***Congleton.**—Erection.—Of Senior Elementary School, etc., in Waggs-rd., Congleton, for B.C. B. Widdows, L.R.I.B.A., of Messrs. Naylor, Sale & Widdows, St. Mary's Gate, Derby. Dep. £2 2s.

Prescot.—Erection.—Of 56 houses at Shaw-lane, for U.D.C. Surveyor, 2, West-st. Dep. £1.

NO DATE.

***Cambridge.**—Erection.—Of village college at Bottisham, for E.C. County Architect. Dep. £2 2s.

***Kingston-upon-Thames.**—(1) Temporary diversion of Hoggsmill stream, (2) excavation, foundation works and superstructure in connection with proposed baths, for T.C. T.C.

MATERIALS, etc.

DECEMBER 9.

Dewsbury.—Steel Window Frames.—For T.C. Borough Architect and Buildings Surveyor.

DECEMBER 12.

Armagh.—Sanitary Ware.—And fittings at new P.E. school, King's-pk., Lurgan, for E.C. J. St. J. Phillips, 16, Donegall-st. South, Belfast.

Dorset.—Road Materials.—For C.C. C.S., Dorchester.

DECEMBER 13.

Rowley Regis.—Road Materials.—For T.C. C. Buckley, T.C.

DECEMBER 14.

Kent.—Broken Roadstone, etc.—For C.C. C.S., St. Peter-st., Maidstone.

Kent.—Tar Emulsions, etc.—For C.C. C.S., St. Peter-st., Maidstone.

West Sussex.—Highway Materials.—For C.C. C.S., Southgate House, Chichester.

ENGINEERING, IRON AND STEEL.

DECEMBER 9.

Bedford.—Reservoir.—For T.C. Charles H. Blakeway, B.E. and S. Dep. £5.

Glanford Brigg.—Water Supply.—For R.D.C. John H. Haiste, chartered civil engineer, Middleton-chambers, Lowgate, Hull. Dep. £3 each.

Manchester.—Installation.—Of electric passenger lift at chief fire station, for T.C. City Architect. Dep. £1 1s.

DECEMBER 10.

Bredbury and Romiley.—Sewerage.—Sewage disposal and surface water drainage, for U.D.C. D. Balfour & Sons, civil engineers, 3, St. Nicholas-buildings, Newcastle-on-Tyne. Dep. £10.

DECEMBER 12.

Gravesend.—Drainage.—Main drainage through portion of Old Denton, for T.C. F. T. Grant, E. Dep. £5.

DECEMBER 14.

Newcastle-under-Lyme.—Water Supply.—Contract No. 2, for R.D.C. A. H. S. Waters, consulting engineer, 25, Temple-row, Birmingham. Dep. £3 3s.

West Riding.—Road and Bridge Works.—In various parts of county, for C.C. C.S., Wakefield. Dep. £1 each.

ROAD, SEWERAGE AND WATER WORKS.

DECEMBER 9.

Bournemouth.—Making-up.—Of Clingan-rd., and William-rd., for T.C. F. P. Dolamore, B.E. Dep. £1 1s.

Southampton.—Works.—In various roads, for T.C. B.E. Dep. £2 2s.

Wimbledon.—Laying.—And maintaining wood block paving on Wimbledon Station bridge and approaches, for T.C. B.E. and S. Dep. £1 1s.

Wimbledon.—Making-up.—Of Wool-rd., for T.C. B.E. and S. Dep. £2 2s.

DECEMBER 10.

Dover.—Widening.—And improvement of Castle Hill-rd., for T.C. Wm. Boulton Smith, B.E. and S. Dep. £2 2s.

Lewes.—Stoneware.—And cast-iron sewers, for T.C. C. T. Butler, B.S. Dep. £2 2s.

Sandown-Shanklin.—Sewer.—In Green-lane, Landguard, for U.D.C. General Surveyor, Town Hall.

DECEMBER 11.

Dursley.—Mains.—440 yds. of 3 in. and 900 yds. of 4 in. spun cast-iron mains, and other works incidental thereto, for extensions to Council's housing site at Highfields and from Whiteway reservoir to existing Highfields site, Dursley, for R.D.C. C. Workman, Waterworks Inspector. Dep. £1 1s.

London (Edmonton).—Streets Works.—In various roads, for U.D.C. E. and S., E. J. Willis. Dep. £2 2s.

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Rayleigh.—Making-up.—Of Victoria-rd. and Helena-rd., for the U.D.C. S., 26, High-st. Dep. £3 3s.

DECEMBER 12.

Barnstaple.—Construction.—And maintenance of about 950 yds. of 12 in., 9 in. and 6 in. stoneware sewers, 500 yds. of 8 in. and 6 in. spun iron sea outfall sewers, two settlement tanks, and works incidental thereto, in Mortehoe, for R.D.C. Lemon & Blizard, consulting engineers, 24, Lockyer-st., Plymouth. Dep. £3 3s.

Gravesend.—Construction.—Of system of main drainage through Old Denton, for T.C. F. T. Grant, E. Dep. £5.

DECEMBER 13.

Bedford.—Making-up.—Of Rosamond-rd. and Talbot-rd., for T.C. C. H. Blakeway, B.E. and S., Newnham House, Horne-lane. Dep. £2.

DECEMBER 14.

Cellygaer.—Making-up.—Paving, kerbing, metalling and drainage of various roads, for U.D.C. F. Read, E. and S. Dep. £3.

Gravesend.—Resurfacing.—Of playground at Church-st. school, for T.C. Borough Architect, J. G. Bennett, 5, Woodville-tce.

Holywell.—Construction.—Of roads, sewers and water supply in connection with Bryn Mawr housing scheme, for U.D.C. D. L. Morgans, S. Dep. £10.

Market Harborough.—Road Works.—For U.D.C. J. G. Barlow, S.

Newcastle-under-Lyme.—Laying. — Of approx. 4,660 lin. yds. of 10 in. dia. cast-iron rising main, and construction of pumping station, for R.D.C. A. H. S. Waters, E., 25, Temple-row, Birmingham, 2. Dep. £3 3s.

Warwick.—Paving.—Laying of precast concrete slab paving to garden paths on Corporation housing estates (1919 schemes), for T.C. R. Wormell, B.E. and S., 20, The Butts. Dep. £1 1s.

DECEMBER 35.

***Littleover.**—Construction.—Of games pitches, tennis courts, roadways, etc., in playing fields near Harpur-av., Littleover, for Parish Council. A. Eaton & Son, F.R.I.B.A., 6, The Strand, Derby. Dep. £2 2s.

Public Appointments

DECEMBER 9.

Welwyn Garden City.—Clerk of Works.—For U.D.C. Clerk.

DECEMBER 10.

***Bournemouth.**—Architectural Assistant (Temporary).—For C.B. B.E.

London.—Architectural Assistant.—For South-Southwark B.C. T.C., Walworth-rd., S.E.17.

London.—Assistant Quantity Surveyor.—For Southwark M.B. T.C., Walworth-rd., S.E.17.

London.—Clerk of Works.—For Southwark B.C. T.C., Walworth-rd., S.E.17.

Oldham.—Building Clerk of Works.—For C.B. B.E. and S.

DECEMBER 11.

Bexhill. — Architectural Assistant. — For T.C. T.C.

Bexhill.—Second Clerical Assistant.—For T.C. T.C.

DECEMBER 12.

***Cornwall.**—Junior Architectural Assistant (Temporary).—For C.C. S. Pool, A.R.I.B.A., Truro.

***Cornwall.**—Quantities and Estimating Assistant.—For C.C. S. Pool, A.R.I.B.A., Truro.

***Cornwall.**—Clerk of Works.—For C.C. S. Pool, A.R.I.B.A., Truro.

***Cornwall.**—Architectural Assistant.—For C.C. S. Pool, A.R.I.B.A., Truro.

DECEMBER 13.

***Liverpool.**—Quantity Surveying Assistant (Temporary).—For T.C. T. C.

***Liverpool.**—Junior Surveying Assistant (Temporary).—For T.C. T.C.

DECEMBER 14.

***Birkenhead.**—Architectural Assistant (Temporary).—For C.B. T.C.

***Leeds.**—Estate Supervisor.—For T.C. R. A. H. Livett.

***Staffordshire.**—Architectural Assistant.—For C.C. K. L. Murray, F.R.I.B.A.

DECEMBER 16.

***East Retford.**—Architect (Temporary).—For E.C. T.C.

DECEMBER 17.

***Bedford.**—Engineering Assistant (Temporary).—For T.C. B.E. and S.

***Bedford.**—Architectural Assistant (Temporary).—For T.C. B.E. and S.

***Derby.**—Architectural Assistant.—For C.B. C. H. Aslin, F.R.I.B.A.

***Surrey.**—Architectural Assistant.—For C.C. Clerk, Kingston-on-Thames.

DECEMBER 20.

***London.**—Surveyor's Clerks.—For War Department. Under-Secretary of State (C.5), War Office, S.W.1.

Tottenham.—Assistant Clerk of Works (Temporary).—For B.C. B.E. and S.

DECEMBER 21.

***Mitcham.**—Building Inspector.—For T.C. T.C.

Tottenham.—Building Inspector (Temporary).—For B.C. B.E. and S., London, N.15.

DECEMBER 23.

***Yorkshire.**—Quantity Surveying Assistants (Temporary).—For West Riding C.C. Education Officer.

NO DATE.

***London.**—Architectural Assistants.—For L.C.C. Architect, County Hall, S.E.1.

***London.**—Qualified Surveyor and Landscape Architect.—Miners' Welfare Committee, Cromwell House, Dean Stanley-st., S.W.1.

CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.

Barnstaple.—Friend & Kelly, architects in connection with large garage and petrol filling station at Landkey-rd., for Dunn & James, Ltd.

Barrow-on-Soar.—R.D.C. propose Council offices and Council chamber at Mountsorrel. Tenders to be invited. Architect, E. W. Parkinson, L.R.I.B.A., 20, Pockington's-walk, Leicester.

Bath.—T.C. recommend reconstruction of Victoria Bridge, at £16,000, and reconstruction of Windsor Bridge and improve the roadways, at £12,000.—T.C. agreed provisionally with Usher's Brewery, Ltd., for exchange of land adjoining Shophouse-rd. housing estate and adjoining "White Horse Inn."—T.C. informed by Gloucestershire C.C. that that Council and Monmouthshire C.C. decided to promote a Bill to construct road bridge over River Severn at site of English Stones. Cost, £2,480,000.

Bedlington.—J. H. Milne proposes factory.

Bilston.—E.C. propose elementary school at Ettingshall. Plans by Joynson Bros., Butcroft, Darlaston. Sketch plans submitted to B. of E.—Joynson Bros., Butcroft, Darlaston, architects for alterations, etc., to Stonefield infants' school for E.C.—T.C. to apply for sanction of M.H. to loan of £75,000 for erection of 276 houses at Millfields estate.

Birmingham.—E.C. forwarded plans to B. of E. in connection with school for 480 juniors and infants at York-rd., Hall Green, Birmingham (cost £12,750); extensions and improvements at Aston Commercial school at £4,750; additional accommodation at Waverley secondary school at £10,000; reorganisation of Albert-rd. school at £2,250; adaptation of Highfield-rd. school to school for mentally defective children at £1,100; and additions to Dartmouth-st. school at £6,500.—J. B. Surman, F.R.I.B.A., 19, Cannon-st., Birmingham, 2, preparing plans for alterations to Camden-dr. Church of England Schools, for Parochial Authorities.

Blackpool.—Baths Committee approved final plans for swimming baths on Pembroke estate, North Shore, at £150,000.—Halstead Best, F.R.I.B.A., architect for two new hotels proposed in Britannia-pl. on Promenade, and at corner of Marton-dr. and Harcourt-rd.

Bournemouth.—T.C. approved:—18 houses, Beverley-gdns. and Howeth-rd., P. G. Hollister; cinema, Westover-rd., the Associated British Cinemas, Ltd.; hotel, 22, Christchurch-rd., Mr. Schofield; church, Hawthorn-rd., the Trustees.

Brierley Hill.—U.D.C. propose 33 houses and bungalows on Tack Farm, Wordsley, 12 houses adjoining Merryhill isolation hospital. Plans by R. H. J. Coomber, S.

Brockhurst.—Baptist church and schoolroom in Netherton-rd. to plans submitted by L. M. Field.

Burnham.—U.D.C. approved rehousing schemes, Silver-rd. and High-st.

Burnley.—E.C. propose elementary school on Harger Clough housing estate.

Chesterfield.—Rev. H. Wilson, P.P., Church of Annunciation, Cross-st., propose improvements of church at £1,000.—Wilcockson & Cutts, architects, Saltersgate, prepared plans for rebuilding "Blue Bell" inn, Cavendish-st., for Mansfield Brewery Co., Ltd., The Brewery, Mansfield. Contracts not let.

Darlington.—Health Committee approved scheme for cubicle block to extend infectious diseases hospital. Plans for three cottages near hospital approved. Plans by E. Minors, B.E.

Dorking.—U.D.C. approved sewage scheme for Mickleham and Westhumble at £22,000.

Durham.—Preliminary plans and estimates amounting to £35,000 been approved by Durham County E.C. for new Durham Johnston secondary school. Architect is F. Willey, 34, Old Elvet, Durham. No contracts let.

Earls Colne.—Grammar school to be enlarged at £6,850.

Epsom.—U.D.C. considering provision of swimming and slipper baths adjoining waterworks, East-st.

Failsworth.—U.D.C. to erect 24 houses in Dean-st. J. W. E. Brown, S.

Feltham.—U.D.C. approved plans for factory at Hatton Cross for Champion Sparking Plug Co.

Flint.—T.C. approved plans for children's ward to Flint Cottage Hospital, for Flint Cottage Hospital and Nursing Association. F. A. Roberts, architect, Earl-chams., Mold. Contracts not let.

Gateshead.—Elders, Walker & Co., Ltd., Sunderland-rd., to erect additions to their premises. Architect, J. N. Fatkin, Bigg Market, Newcastle-on-Tyne.

Handforth.—Tomlinson Bros., builders, Wilmslow-rd., propose development of Homelands estate, for 228 houses. Plans by E. Haley, Chestergate, Macclesfield.

Heckmondwike.—U.D.C. to carry out extensions to electricity works at £42,179.

Hinckley.—U.D.C. approved plans for additions to grammar school, Leicester-rd., for Governors.—Board of Management of Hinckley and District Hospital having plans prepared for large extensions to the buildings at £25,000. Plans by Pick, Everard, Keay & Gimson, F.R.I.B.A., architects, 6, Millstone-ln., Leicester.

Horden.—Conditional approval given by B. of E. to scheme for Roman Catholic school. Architect, J. W. English, 78, Church-st., West Hartlepool. No contracts let.

Hornchurch.—Essex P.A.C. approved extension of Suttons Institution at £12,991.

Hyde.—T.C. propose erecting elementary school, Garden-st. and Clarence-st.—J. H. Ward, B.S., prepared plans for 68 houses in Dukinfield-rd.—W. G. West, builder, Highfield Park estate, Bredbury, nr. Stockport, proposes shopping centre in Woodfield-av. Plans by P. Peirce & Son, St. Petersgate, for 18 shops.—T.C. approved plans for 38 houses. Brookfield estate, C. H. Pike, Lodge-ln.

Jarrow-on-Tyne.—Application being made to M.H. for sanction to borrow £43,760 in connection with 150 houses to rehouse persons of working class. Plans by J. Scott-Weir, B.E.

Kettering.—U.D.C. propose pavilion in Rockingham-rd. pleasure ground. Major J. P. Haugh, S. —U.D.C. propose market in Bayes Field at £14,000. —U.D.C. propose municipal buildings at £29,000.

Lancaster.—Lancaster and District Co-operative Society, Ltd., New-st., propose branch stores, Scale Hall estate. R. W. Jackson, L.R.I.B.A., architect, 43, Church-st. Tenders invited.

Leyton.—B.E. and S. to prepare and submit to committee plan and estimated cost for pavilion in Coronation-gdns. for accommodation of tennis players.—Plans passed: A. E. Radcliffe, 16 lock-up garages, extension to existing at Station-rd.; Shepherd & Thomerson, extension to existing factory at 97, Lea Bridge-rd.

Lichfield.—Staffordshire C.C. propose conversion of institution into hospital of 220 beds. County Architect, K. L. Murray, F.R.I.B.A., Stafford.

London.—C.C. recommend £500 in respect of electrical rewiring of staff cottages and other buildings at the southern outfall works.

London (Bermondsey).—B.C. received M.H. sanction to erection of 31 flats and 1 shop, Arnolds-pl. area.—Plans passed: Rebuilding of Messrs. Tates' premises in Redriff-rd.; Pickfords, Ltd. (Building Dept.), Bolina-rd., Rotherhithe, building, 151, Tower Bridge-rd.—L.C.C. sanctioned borrowing by B.C. of £1,500 for Kintore-st. clearance scheme.

London (Chelsea).—L.C.C. sanctioned borrowing by B.C. of £7,000 for Manor-st. clearance area.

London (Hackney).—L.C.C. sanctioned borrowing by B.C. of £36,100 for site at Clapton-common and erection of dwellings.

London (Poplar).—B.C. received M.H. formal consent to Council's application for loan sanction for clinic at Old Ford.—L.C.C. submitted to B.C. plan showing proposed new opening bridge at Millwall Dock entrance.—Public sanitary convenience to be provided at Victoria-pk. by Wick-ln. at £2,350.—B.E. and S. prepared scheme for timber store, mill and joiners' shop at Yeo-st. destructor site.

London (Shoreditch).—L.C.C. sanctioned borrowing by B.C. of £600 for housing purposes.

Lymm.—Cheshire C.C. propose widening bridge over Dam Head roadway. G. E. Ashforth, Surveyor and Bridgemaster, The Castle, Chester. Cost £20,000. Contracts not let.

*See also List of Contracts open.

** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.

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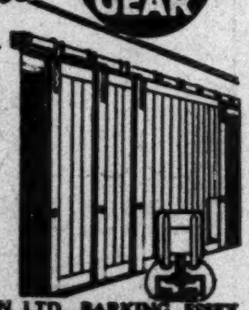
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Macclesfield.—T.C. propose to acquire land off Lime-av. and Mable-av. for housing estate.
Maldon.—Junior school to be enlarged at £8,726.
Manchester.—P. M. Reynolds, A.R.I.B.A., 9, Albert-sq., preparing plans for Church of St. Dunstan, Bluestone-rd., Moston, for Rev. J. M. Routledge.
Mansfield.—T.C. approved plans for nurses' dining room, Stockwellgate, for Notts C.C.
Marley Hill.—Grant been made by the Commissioner for Special Areas towards Durham Aged Mineworkers' Association housing scheme. Total cost £2,000. Plans by colliery architect and engineer, John Bowes & Partners, Marley Hill.
Middlesbrough.—Prices, Tailors, Ltd., purchased about 15 acres of land for new factory. Building is to commence at once.—T.C. approved:—10 houses and shops, Acklam-rd., corner Coniston-gr., E. T. Sweeting.
Mitcham.—New parish room to be erected at £3,000.
Mountain Ash.—Erection of out-patients' dept. proposed at general hospital.
Newcastle-on-Tyne.—Improvements to be carried out by City Council to Forsyth railway bridge at £562.—Agreement to be entered into between City Council and United Automobile Services, Ltd., Darlington, for parcels office at Gallowgate.—City Council to erect 140 houses on Fergusons-ln. estate and 47, on Daisy Hill estate to plans by R. G. Roberts, architect, 18, Cloth-market.
Norman Cross.—R.D.C. proposes water scheme for Alwalton, Chesterton, Folksworth and district at £21,450.
Northumberland.—Two staff cottages to be built at county mental hospital at Morpeth by C.C. and tenders are invited. Plans by W. W. Tasker, County Architect, Newcastle-on-Tyne.—E.C. approved plans by County Architect, W. W. Tasker, Newcastle-on-Tyne, for school at Holywell to cost £11,970 and accommodate 200 junior pupils. Tenders to be invited shortly.—E.C. negotiating for sites at Belford, West Sleekburn, and Newton-on-the-Moor for new schools. W. W. Tasker, County Hall, Newcastle, architect.
Norton-le-Moors (Staffs).—Branch of British Legion and United Services Fund Benevolent Committee propose headquarters at Cornhill. S. G. Averill, hon. sec. Contracts not let.
Nottingham.—T.C. propose wholesale market at Sneinton at £79,877, and municipal slaughterhouse and abattoir at £28,808. City Engineer, R. M. Finch.—T.C. propose demolition of bridge carrying L.N.E.R. over Valley-rd. and construct new steel bridge. Plans by City Engineer and Surveyor, R. M. Finch. Cost £28,500.
Oundle.—R.D.C. applying for loan of £13,595 for 44 working-class dwellings at Woodford.
Portsmouth.—E.C. approved extension of Futcher School for Recovery, Drayton, at £1,275.
Preston.—Lancashire C.C. proposing to replace Skew bridge on London-Carlisle-rd. at Dockacres, nr. Carnforth, by erection of new bridge. Cost £33,400. P. Schofield, County Surveyor and Bridgemaster, Preston. Contracts not let.
Ripon.—West Riding C.C. propose to erect new senior school at £24,500. Plans by H. Wormald, County Hall, Wakefield. Tenders to be invited.
Rochester.—T.C. approved:—Licensed premises, Darnley-rd., Truman Hanbury & Buxton, Ltd.; 16 houses, Grafton-av., H. W. Bowman; 70 flats and lay-out of continuation of Woodstock-rd., Avery & Walker; 123 houses and lay-out, Jasper-av., Wellerav., Pickwick-cres., Copperfield-rd., Dombey-close and The Rise, for Rochester Garden City Estates, Ltd.
Roundhay.—Leeds E.C. to proceed with elementary school to accommodate 300 infants and 300 juniors, Plans by W. F. Broadbent, architect, Civic Hall. Tenders to be invited
Salford.—Finance Committee of T.C. recommend borrowing of £1,090 for purchase of land forming part of grounds of "The Deanery," situate junction of Bury New-rd. and Park-ln., Broughton, as site for new headquarters for Broughton division of city police force.—Finance Committee recommend borrowing of £89,500 for 200 houses on Duchy-rd. and Summerville estates.
Scarborough.—T.C. to erect further 92 houses and 4 shops on Northstead estate to plans by J. P. Watson, B.E.
Seaton Delaval.—U.D.C. to negotiate for purchase of land at Avenue Head for new Council offices. A. Dorin, S.
Sheffield.—Senate of the University propose extensions of University buildings in Western Bank. Architect, T. A. Lodge, O.B.E., F.R.I.B.A., 19, Bedford-sq., W.C.1. Cost £60,000. Tenders to be invited
Southall.—U.D.C. approved: 24 houses, Cravenave., The Property Development Co., Ltd.; 34 houses, Beresford-rd. (extension) and Hambrough-terr. (E.) F. S. Honey.—S. to take steps for demolition of old lodge on new Town Hall site in South-rd.
Southam.—Warwickshire E.C. propose senior school to accommodate 400 children. Plans by County Architect, A. C. Bunch, F.R.I.B.A., Warwick.
South Shields.—T.C. applied to Commissioner for Special Areas for grant towards two drainage schemes. The foreshore drainage scheme at £19,100 and sewer from Victoria-rd. to Mill Dam Gut at £11,600.—E.C. approved scheme for the building of junior instruction centre for boys at £8,559. Plans by Howard Hill, 10, Winchester-st.—R.D.C. proposes development scheme at Whitburn, including a concrete retaining wall. Cost £8,000. W. Welsh, S.
Stanhope.—U.D.C. intends to purchase land in order to extend and improve the town hall. W. R. Ayton, S.
Stockport.—W. G. West, builder, Highfield Park estate, Kingsway, Bredbury, proposes 500 houses, Bosden Fold estate, Commercial-rd., Hazel-gr. Plans by F. Peirce & Son, 30, St. Petersgate.—Governors of Technical College propose extensions to buildings.
Stockton-on-Tees.—Architect for reconstruction of grammar school is G. P. Stainsby, 25, High-st. Cost £3,000.
Stoke-on-Trent.—T.C. approved:—G. A. Burton, Albany-st., Sneyd Green, mineral water factory; Burslem and District Industrial Co-operative Society, Ltd., London-rd., Stoke, reconstruction of premises; Barker Bros., Barker-st., Longton, warehouse.
Stratford-on-Avon.—Council of Governors of Shakespeare Memorial Theatre have approved plans for extensions of gallery.
Stroud.—C.C. approved remodelling of P.A. institution at £28,000.
Sunderland.—T.C. to proceed with scheme for converting residence "Thornfield," Sea View-rd., Sunderland, into open-air school. Tenders invited. Plans by O. H. Mark, Education Architect, 15, John-st.—Sutton Dwelling Trust, London, proposing 360 flats on site in Hylton-rd. C. S. Errington, 21, Grainger-st. West, Newcastle-on-Tyne, architect to Trust.—E.C. proposes dressing accommodation, etc., at the Hylton-rd. playing fields at £500. O. T. Mark, Education Offices, John-st., architect.
Surrey.—C.C. approved: Conversion of existing practical instruction rooms at West Byfleet central school at £150; new second central school in Cromwell-rd., Dalton; improvements at Eagle House, Mitcham, £280; engineer's workshop and store at Reigate institution, £380; improvement of mortuary at Farnham institution, £760; alterations and improvements at Hambledon institution.
Upshire.—Essex E.C. to have sketch plans prepared for junior and infants' school to accommodate 200.
Vaynor.—R.D.C. received sanction from M.H. to loans of £5,870 for working class houses at Cefn and £6,510 for houses at Hirwaun.
Wakefield.—West Riding E.C. propose gymnasium at Goole new senior school at £4,500, and alterations to Whiston, nr. Rotherham elementary school, at £961. Plans by H. Wormald, A.R.I.B.A., County Architect, Wakefield.
Walsall.—J. H. & E. H. Hickton, 4, St. Paul's-close, are architects for rebuilding the "Coachmakers' Arms" public-house, Bridgeman-st., for W. Butler & Co., Ltd., Springfield Brewery, Wolverhampton. Contracts not let.—T.C. propose 30 one-bedroomed flats. Plans by J. Taylor, B.S.
Warwick.—T.C. approved:—22 houses, Hanworth-rd., Coventry Industrial Estates, Ltd.; alterations, Myton Grange Farm, Warwickshire C.C.
Wellingborough.—Brown-Gent, Ltd., Midland-rd., propose loading warehouse to works.
Wellington (Salop).—U.D.C. propose 54 houses Slang-ln. site. Plans by W. Walker, S.

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Widnes.—T.C. approved:—Four blocks, each of 8 houses on land off Hale-rd., Ball o' Ditton, for J. Lewis, Ltd.; 120 houses on land off Lugsdale-rd., and 36 houses on land off Lacey-st., for T.C.
Wigton.—R.D.C. propose 20 one-bedroomed, 21 two-bedroomed, 8 three-bedroomed, one four-bedroomed, one five-bedroomed, one six-bedroomed houses in connection with rehousing scheme.
Whittlesey.—U.D.C. proposes sewerage and sewage disposal scheme at £39,091.
York.—R. J. Pulleyn, builder, Clifton Croft, proposes development of Highthorn estate, Huntingdon-rd., Flaxton, for houses.—T.C. approved:—E.C., extensions, Nunthorpe secondary school; York County Hospital, mortuary block, Foss Bank.

NEW PUBLIC WORKS

GREAT BRITAIN.—Among the contracts in this issue advertised by public authorities as being open are: Wimbledon—transformer station; Winchester—alterations and additions; Bedale—14 houses; Kingston-on-Thames—baths; Lymington—42 houses; Littleover—pavilion; Bath—reconstructions and swimming-pool.

NEWCASTLE-ON-TYNE.—Another step is being taken in the scheme for the erection of a new £400,000 flour mill for Messrs. Spillers, Ltd. Under an agreement with the City Council, Messrs. Spillers are to erect the mill and the Council a new quay east of the Ouseburn. Tenders are now being invited for the construction of the quay to plans by Major W. J. Steele, City Engineer, Town Hall, Newcastle. The designer for the new building will be Dr. Oscar Faber, Romney House, Marsham-street, S.W.1.

WHITLEY BAY.—The North-Eastern Piers, Ltd., 208, Moorgate Station Chambers, E.C.2, are to erect a new pier to cost about £250,000. An application to be made to Parliament seeks power, in addition to building the pier, to construct thereon pavilions, theatres, cinemas, and other buildings. The architects are Messrs. T. Oliver & Partners, Ltd., Atlantic House, Holborn-viaduct, London.

WOLVERHAMPTON.—A site of about 50 acres has been acquired by the newly formed company, Tungstall Steels, Ltd., of Lombard House, Birmingham, with which the Austin Motor Co., Ltd., Birmingham, are associated. The area will be used for the erection of large steelworks, the cost of which is expected to amount to £750,000.

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd. Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

JOHN TANNER & SON, LTD. (307,391). Registered November 23. Slaters, plasterers, etc. Nominal capital, £500. R. G. Malim, Brackinwood, Penyffordd.

C. BROWN & Co., LTD. (307,321). Registered November 22. 68, King's-road, Cardiff. Builders and contractors. Nominal capital, £2,000.

J. R. GROVES, LTD. (307,341). Registered November 22. Builders and contractors, etc. Nominal capital, £1,000. J. R. Groves, 15a, King George's-avenue, Watford.

LEWIS & WILLS, LTD. (307,395). Registered November 23. 4, Elm Park, Paignton. Builders and contractors. Nominal capital, £1,000.

WOODSIDE COMPANY (CINDERFORD), LTD. (307,272). Registered November 20. 16a, Church-road, Cinderford. To acquire any lands or buildings; to develop the same as a building estate, etc. Nominal capital, £1,000.

KNIGHT & COOKSLEY, LTD. (307,255). Registered November 20. 5, College-road, Harrow. Road and estate contractors, etc. Nominal capital, £1,000.

PENYGROES TILE WORKS, LTD. (307,403). Registered November 23. Tile manufacturer. At Penygroes, Carmarthenshire. Nominal capital, £4,000.

LONG & SOMERVILLE, LTD. (307,260). Registered November 20. L.N.E. Railway Goods Yard, Snaresbrook Station, Wanstead, E.11. Makers of and dealers in builders' requisites and materials, etc. Nominal capital, £1,000.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

PRINCIPAL CHANGES OF THE WEEK.—Lead advances by 10/- per ton.

BRICKS, &c.

Per 1,000 Alongside in River Thames up to Mortlake.

	£ s. d.
Best Stocks	4 2 0
Second Hand Stocks	3 10 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
"Phorpres"	*2 8 3	Flettons, B'll'n'se	3 6 3
Flettons at King's Cross	*2 8 3	Best blue Pressed Staffs	8 5 0
Do., grooved for Plaster	*2 10 3	Do. Bullnose	8 15 0
		Blue Wire Cuts	7 0 0

White Midhurst Facing Bricks (delivered London site) 5 0 0

"Phorpres" Whites (King's Cross) *3 11 3

"Phorpres" Rustic Facings (King's Cross) .. *3 6 3

Best Stourbridge Fire Brick :—

2½ in. ..... 7 15 0 3 in. 8 15 0

*Delivered to site in W.C. district, 6s. extra per 1,000.

GLAZED BRICKS—

Best White		Db'le Str'tch'rs	29 10 0
Ivory and Salt Glazed		D'ble Headers	26 10 0
Stretcher	21 0 0	One side and two Ends	30 10 0
Headers	20 10 0	Two sides and one End	31 10 0
Quoins, Bullnose and 4½in. Flats	27 10 0	Splays and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

CLINKER CONCRETE.

2" per yd. sup	1 6	3" per yd. sup.	2 0
2½ " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½ " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3 per yd.	delivered 2 miles radius Paddington.
Pit Ballast	6 3 " "	
Pit Sand	7 9 " "	
Washed Sand	8 3 " "	
¾ in. Shingle	7 3 " "	
¾ in. Broken Brick	11 3 " "	
Tan Breeze	8 3 " "	

CEMENT.

Best British Portland Cement, Standard Specification, delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site.....Per ton	2 0 0
1 ton to 4 tons site	2 2 0
Alongside Vauxhall in 80-ton lots	1 16 0
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 6 0
1 ton to 4 tons site	2 8 0
Alongside Vauxhall in 80-ton lots	2 2 0

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition withiu three months, carriage paid.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site	2 6 0
"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 10 0
Roman Cement	5 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	2 17 0	Siripate, Coarse	3 5 0
" White	3 2 6	" Finish	3 13 0
Super Carbo	2 7 6	4-tonloads&over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
GraniteChippings	1 12 0	Hair per cwt.	2 2 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months carr. pd.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station, per ft. cube	1 ;
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½
Selected approximate size one way, 1d. per cubic foot extra ; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do., delivered on road waggons at above stations, per ft. cube	4 5½
White bastbed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. average, and ½d. beyond 30ft.	
HOPTON-WOOD STONE—	s. d.
F.O.R. Quarries, Wirksworth Derbyshire. Random blocks from 10ft. and over P.ft.cb	14 0
Sawn two sides	22 6
HOPTON WOOD STONE—	
Sawn three or four sides	27 9
CHILMARK—RANDOM BLOCK—	
At Nine Elms, per ft. cube	3 11
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station London.	
6in. sawn two sides landings to sizes (under 30 ft. super) .....Per ft. super	5 6
6in. rubbed two sides, ditto ..... "	6 0
3in. sawn two sides slabs (random sizes)„	2 3½
2in. to 2½in. sawn one side slabs (random sizes) "	1 6½
1½in. to 2in., ditto ..... "	1 3½
HARD YORK—	
Delivered at any Goods Station, London.	6 3
Scappled random blocks ....Per ft. cube	
6-in. sawn two sides landing to sizes (under 40 ft. super) .....Per ft. super	5 1½
6in. rubbed two sides, ditto ..... "	6 1½
4in. sawn two sides slabs (random sizes) "	3 1½
3in. ditto ditto "	2 8
2in. self-faced random flags..Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 8s. 6d. ; Moulded, 9s. 6d. Sills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£23 10	3 × 6	£18 10
4 × 9	22 10	3 × 11	19 10
4 × 8	21 0	2 × 11	19 10
4 × 7	19 0	3 × 9	19 10
3 × 8	17 10	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21

PLAIN EDGE FLOORING.

Inches	per sq.	Inches.	per sq.
½	16/-	1½	25/-
¾	17/-	1¾	31/6
1	19/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.	Inches.	per sq.
1	21/-	¾	16/-
1½	26/-	¾	18/6
1¾	32/6	1	22/6

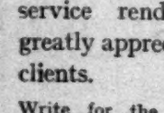
ins. BATTENS	s. d.		s. d.
¾ × 2.. per 100ft.	2 6	SAWN LATHS. Per bundle	2 3

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality.	
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

HUDDERSFIELD Building Society



Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for the Folder "Mortgage Facilities" to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2., or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST!

SLATES.

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	29 15 0	18 by 10	15 12 6
22 by 12	25 0 0	18 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 2 0
ditto hand-made ditto	4 10 0
Ornamental ditto	4 15 0
Hip and valley tiles (per dozen) } Hand-made	0 8 6
Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 10 0
Plain Compound Girders	13 10 0
Stanchions	16 0 0
In Roof Work	18 10 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter	£ s. d.	Diameter	£ s. d.
¼ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅜ in.	11 0 0	⅝ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in.	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in.	Standard Fittings Sizes ⅛in. to 6in.	Standard Flanges Sizes ⅛in. to 6in.
	%	%	%	%
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv.gas.	52½	40	47½	60
Galv.water	47½	35	42½	55
Galv.steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/5½	1/1½	4½d.
3½ in.	1/6½	1/3	5½d.
4 in.	1/6½	1/4½	6½d.
4½ in.	1/8	1/6½	9½d.
5 in.	1/10½	1/8½	10d.

O.G. GUTTERS.

3 in.	1/7½	1/5½	7d.
3½ in.	1/9½	1/5½	7½d.
4 in.	1/11	1/6½	8½d.
4½ in.	2/0	1/9½	9½d.
5 in.	2/4½	2/0½	11½d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe,	Bends, stock angles,	Branches, stock angles.
2 in.	2/2½	1/4½	2/0
2½ in.	2/3½	1/6½	2/4½
3 in.	2/9½	1/11	2/10½
3½ in.	3/3½	2/3½	3/3½
4 in.	3/9	2/9	4/0½

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

	Pipe,	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2in. per yd. in 6 fts.	2 9½	2 0	2 5½
2½in. " "	3 2	2 2½	3 0½
3 in. " "	3 6	2 5½	3 7½
3½ in. " "	3 9½	3 0½	4 2½
4 in. " "	4 2½	3 4½	4 10½

L.C.C. COATED DRAIN PIPES—London Prices ex Stock.

	Pipe,	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3in. per yd. in 9ft. lengths	3 4½	4 3	7 0
cwt. qr. lbs.			
4in. " 1 1 20..	5 1	5 0	8 9
5in. " 1 2 22..	6 6	8 9	13 6
6in. " 2 0 6..	7 6	10 3	18 9

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common bars	10 0 0	to	10 10 0
Staffordshire Crown Bars—			
Good merchant quality	10 10 0	to	11 0 0
Staffordshire Marked Bars	14 0 0	..	15 0 0
Mild Steel Bars	9 0 0	..	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 10 0	..	9 0 0
Hoop iron, basis price	11 0 0	..	12 0 0
" Galvanised	27 10 0	..	28 10 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the average prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*contd.*).

IRON—	Per ton in London. £ s. d.		£ s. d.
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	11 0 0	..	11 10 0
" " 24 g.	12 0 0	..	13 0 0
" " 26 g.	14 0 0	..	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 8 ft. to 22 g. and 24 g.	15 0 0	..	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 8 ft. to 26 g.....	17 10 0	..	18 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	13 10 0	..	15 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g...	15 10 0	..	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0	..	18 0 0
Sheets, Galvanised, Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 8 ft. to 20 g. and thicker	14 10 0	..	16 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	15 0 0	..	17 0 0
Best Soft Steel Sheets, 26 g.	16 10 0	..	18 0 0
Cut Nails, 3 in. to 6 in.....	15 10 0	..	17 0 0
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	0 9
Strong sheet	"	0 10
Thin	"	0 11
Copper nails	"	1 0
Copper wire	"	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	200/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/-	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH GLASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
6 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- per doz.

TIN.—English Ingots, 2/6 per lb. SOLDER.—Plumbers' 1/1, Tinmen's 1/3, Blowpipe 1/4 per lb.

LEAD, &c.

(Delivered in London.)	£ s. d
LEAD.—Sheet, English, 4 lb. and up.....	25 10 0
Pipe in coils	25 10 0
Soil pipe	30 15 0
Compo pipe	31 15 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton £16 10 0

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes.....per gallon	0 2 10
" " " in barrels ..... "	0 3 0
" " " in drums ..... "	0 3 2
Boiled " " in barrels ..... "	0 3 3
" " " in drums ..... "	0 3 5
Turpentine, in barrels ..... "	0 4 4
" in drums (10 galls.)..... "	0 4 6
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)	51 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered	£ s. d. 70 0 0
Red Lead, Dry (packages extra) .. per ton	37 0 0
Best Linseed Oil Putty ..... per cwt.	0 13 0
Size. XD quality ..... f'kn.	0 3 6

VARNISHES, &c.

		Per gallon.
Oak Varnish .....Outside		0 14 0
Fine Do.	Do.	0 16 0
Fine Copal.....	Do.	0 18 0
Pale Copal.....	Do.	1 0 0
Pale Opal Carriage	Do.	1 4 0
Best Do.	Do.	1 12 0
Floor Varnish .....Inside		0 18 0
Fine Pale Paper	Do.	0 18 0
Fine Copal Cabinet	Do.	1 2 0
Fine Copal Flatting.....	Do.	1 0 0
Hard Drying Oak	Do.	0 18 0
Fine Hard Drying Oak	Do.	0 19 6
Fine Copal Varnish	Do.	1 0 6
Pale Do.	Do.	1 12 0
Best Do.	Do.	1 2 6
Best Japan Gold Size.....		0 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel.....		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY & SELECTED GLAZING QUALITY.

per ft. super		per ft. super	
15 oz. O.G.Q. ..	2½d.	32 oz. O.G.Q.	6½d.
15 " S.G.Q. ..	2½d.	32 " S.G.Q.	7½d.
21 " O.G.Q. ..	3½d.	Obscured Sheet, 15 oz.	3½d.
21 " S.G.Q. ..	3½d.	21 "	4½d.
26 " O.G.Q. ..	4½d.	Fluted, 15 oz. 6½d., 21 oz.	9d.
26 " S.G.Q. ..	5d.	Em'lld 15 oz. 4½d., 21 oz.	5½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ¼ in.....	4½d.
Rough rolled ⅜ in.	5½d.
Rough rolled, ½ in.	5½d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White....	5½d.
Do. tinted	6d.
Rolled Sheet	5d.
White Rolled Cathedral	5d.
Tinted Do.	7½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	per ft. s. d.
Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. do. 2 feet.....	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide.....	2 9

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. for the Building Industry from August 1. Grade A towns, 1/6½ per hour; Grade B, 1/4; Aberdeen has a special rate of 1/5½. The new rate for Plasterers has been fixed at 1/6½. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification ...	A	A¹	A²	A³	B	B¹	B²	B³
Craftsmen	1/6½	1/5½	1/5	1/4½	1/4	1/3½	1/3	1/2½
Labourers	1/2	1/1½	1/0½	1/0½	1/0	-/11½	-/11½	-/11

Aberdeen	A	Dundee	A	Hawick	A²
Airdrie	A	Dunfermline	A	Helensburgh	A
Alexandria	A	Dunoon	A	Inverness	B
Arbroath	A	East Lothian	A	Kilmarnock	A
Ayrshire	A	Edinburgh	A	Kincardineshire	A
Bathgate	A	Falkirk	A	Kinross-shire	A
Bo'ness	A	Forfarshire	A²	Kirkcaldy	A
Broughty Ferry	A	Fort William	B	Lanarkshire	A
Clackmannanshire	A	Galashiels	A²	Leith	A
Coatbridge	A	Glasgow	A	Midlothian	A
Dumbartonshire	A	Greenock	A	Motherwell	A
Dumfries	A²	Hamilton	A	Peeblesshire	A²
Dumfriesshire	A				

Perth	A²	Wishaw	A
Perthshire	A²		
Peterhead	A		
Renfrewshire	A		
Rothesay	A		
Roxburghshire	A		
St. Andrews	A		
Selkirkshire	A		
Stirling	A		
Stirlingshire, West	A		
West Lothian	A		

NOTE.—Bricklayers in Glasgow and District, Dumbartonshire, Renfrewshire and Lanarkshire receive 1/7 per hour.

The information given in this table is copyright The rates of wages in various towns in England and Wales are given on page 1035.

THE SCOTTISH BUILDER

INCREASE IN SCOTTISH PLASTER PRICES.

SCOTTISH plasterers are considering making representations to the Scottish Department of Health with regard to a substantial increase in the price of stucco and hard wall plasters recently imposed by manufacturers and wholesalers. The increases in most grades were round about 25 per cent., and were as follows:—Stucco, from 48s. 6d. to 63s. per ton; hard wall plasters, browning, from 53s. to 67s.; haired, from 58s. to 72s.; and finish, from 60s. 6d. to 74s. 6d. per ton. Plasterers contend that these increases will result in serious losses being returned on current contracts, as they represent 2d. on the cost of each foot of plaster work. Contract prices average round about 9d. per foot, at which figure a profit of slightly under 1d. per foot can be made. Accordingly, it is argued, the increases imposed last week will more than eat up the profit margin, and those plasterers particularly with low stocks of stucco and plaster materials will suffer substantial loss.

The position is to be specially considered in Lanarkshire this week at a meeting of the Lanarkshire Master Plasterers' Association.—*Glasgow Herald.*

NEW BUILDINGS

ABERDEEN.—HOTEL. — Plans have been submitted by Mr. J. D. Allan, spirit merchant, for a hotel and restaurant which it is proposed to erect on the new road to the beach at the junction of Bannermill-road and Links-road.

ABERDEEN.—CREMATORIUM.—Mr. R. L. Rollo, architect, Aberdeen, has prepared plans for a crematorium which it is proposed to establish at Kaimhill, Broomhill-road. The building will cost £6,500.

ABERDEEN.—HOUSING.— The Corporation has decided to order the demolition of houses in the Gallowgate, Innes-street, Loch-street, and Spring-gardens areas.

BARRHEAD.—HALLS.—Plans are in hand for new halls to be erected in Cross-arthurlie-street. Messrs. Lennox and McMath, 103, Bath-street, Glasgow, are the architects.

BELLSHILL.—CENTRE.—Plans have been passed by the Lanarkshire C.C. for the erection of a child welfare centre on a central site in Main-street, Bellshill, at £10,500. A public library to cost £6,500 is also to be built on the same site.

DUNDEE.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer: Balgray-road and Balgray-place, additions to garage for Harry Lorimer (architect, J. Johnston, 32, Bank-street); Clepington-road, off, tenements for Gibson and Dargie (architect, J. Johnston); Monifieth-road, bungalow for Hillside Property Investment Co. (architect, W. M. Wilson, 61, Meadowside); Strathmartine-road, cinema for Vogue Cinemas, Ltd. (architects, John McKissack, 68, West Regent-street, Glasgow).

EDINBURGH.—BUILDING.—The Dean of Guild Court has passed plans for the erection of a model factory, costing about £4,000, to be built for Messrs. Mitchelhill, Edinburgh. The factory will be on the Cameron Toll-Craigmillar-road. The architect is Mr. Alan L. Goodwin, 34, Castle-street, Edinburgh. Warrant was also granted to the Edinburgh Royal Infirmary for an addition to the Nurses' Home at present in the course of erection at Archibald-place. There will be 22 beds in the ward, and the additional cost will be £7,000. Warrants were also granted to the following: The City, demolish bridge and erect new bridge at Lanark-road; Lothians District Buildings, Ltd., 27 houses and two shops at Ward's-lane, North Forth-street, Leith; A. and J. Macnab, Ltd., warehouse at Slateford Dye Works, Inglis Green; Albert Hall (Nottingham), Ltd., shops and offices at Semple-street and Lothian-road; and George Reid and

(*Continued on page* 1043.)

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	" "	5	0
Add if in floors 6 in. thick	" "	2	0
Add if in beams	" "	2	6
Add if aggregate 1 : 2 : 4	" "	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.		1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	"	6	0	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	"	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	"	0	0	10
Axed in stocks	"	0	0	9
Rubbed and gauged jointed in putty camber or segmental	"	0	5	9

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	9
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	15	6
Chilmark stone fixed complete	" "	13	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	70	0	
Do. 20 in. × 10 in. Do. Do.	"	71	6	
Do. 24 in. × 12 in. Do. Do.	"	73	6	

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	3	6	
Do. joists	" "	4	0	
Do. roofs, floors and partitions	" "	4	6	
Do. trusses	" "	6	9	

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	30/-	35/-	43/-	70/-

Flat centering for concrete floor, including struts or hangers	"	50	0	
Do. to beams	per ft. sup.	0	8	
Centre for arches	"	1	6	
Gutter boards and bearers	"	1	0	

FLOORING.		¾"	1"	1¼"	1½"
Deal edges shot	per sq.	—	38/-	45/-	52/-
Do. tongued and grooved	"	—	43/-	50/-	58/-
Do. matchings	"	40/-	45/-	—	—
Moulded skirtings, including backings and grounds	per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	9
Two Do. Do. Do.	" "	2	0
Add for fitting and fixing	" "	0	2
Deal cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size		3	3

DOORS.		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	"	2/4	2/6	2/9
Two-panel moulded both sides	"	2/6	2/9	2/11
Four-panel Do.	"	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/2	1/4	1/7
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/0	2/3	2/8	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1½ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	" "	5	6
Add if ramped	" "	11	0
Add if wreathed	" "	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	"	18	0
Do. stanchions	"	20	9
In roofwork	"	26	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/-	1/1	1/3	1/6
Ogee Do. Do.	"	1/2	1/3	1/9	2/3
Rain-water pipes with ears	"	1/3	1/10	—	—
Extra for shoes and bends	each	2/9	3/11	—	—
Do. stopped ends	"	1/1	1/4	1/9	2/6
Do. nozzles for inlets	"	2/2	2/7	3/7	4/-

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	37	6
Do. do. flats	"	36	6
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	" "	1	6
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	10½	1/2	1/9	2/5	3/-	—
Do. service	"	1/3	1/8	2/2	3/2	—	—
Do. soil	"	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	2/3	5/6
Soldered stop ends	"	0/7	0/11	1/3	2/-	2/6	—
Red lead joints	"	0/9	0/10	1/1	1/7	1/10	3/6
Wiped soldered joints	"	2/-	2/6	2/9	3/5	4/3	6/-
Lead traps and cleaning screws	"	—	—	—	10/-	13/-	—
Bib cocks and joints	"	6/-	9/-	13/-	—	—	—
Stop cocks and joints	"	10/6	12/6	17/6	50/-	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard sup.		2	0
Do. Do. Sirapite	" "		2	3
Do. Do. Keen's	" "		3	0
Add saw lathing	"		1	4
Add metal lathing	"		2	4
(Not including hangers or runners, etc., for suspended ceilings.)				
Portland cement screed	" "		1	7
Do. plain face	" "		3	3
Mouldings in plaster	per 1 girth		0	1½
One-and-a-half granolithic pavings	per yard sup.		4	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	" "	0	7½
Obscured sheet	" "	0	8
¼-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10
¼-in. wired cast plate	" "	1	1

PAINTER.

Preparing and distempering, 2 coats	per yard sup.	0	7½	
Knotting and priming	" "	0	7	
Plain painting, 1 coat	" "	0	9	
Do. 2 coats	" "	1	2	
Do. 3 coats	" "	1	9	
Do. 4 coats	" "	2	4	
Graining	" "	2	3	
Varnishing twice	" "	1	9	
Sizing	" "	0	3	
Flatting	" "	0	7	
Enamel	" "	1	1	
Wax polishing	per foot sup.	0	6	
French polishing	" "	1	2	
Preparing for and hanging paper	per piece 2/- to	4/-		

These prices apply *to new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW BUILDINGS IN SCOTLAND

(*Continued from page* 1041)

Co., Ltd., demolition and erect factory at 32, Halmyre-street, Leith.

FORFAR.—HOUSING.—The T.C. have under consideration a proposal to erect 12 houses of five-apartments, 40 of four-apartments, and 36 of three apartments.

FORFARSHIRE. — BUILDINGS. — The C.C. have plans in hand for the erection at Glamis and also at Tealing of new police stations and offices, etc.

GLASGOW.—HALLS. — Plans have been drawn up by Mr. W. G. Taylor, builder, Forfar-avenue, Glasgow, for the proposed erection of a suite of halls at Cardonald. The site provisionally selected adjoins Kirriemuir-avenue, and it is proposed to provide accommodation in the main hall for 250 people.

GLASGOW.—HOUSING. — The Corporation are to erect a new housing scheme of 22 houses, etc., in Maxwell-street, Govan. Mr. William McNab, Housing Architect.

GLASGOW. — EXTENSIONS. — Plans are coming before the Dean of Guild Court for a scheme of reconstruction and extension at 33 to 41, Tollcross-road. Mr. George Gunn, architect, 200, St. Vincent-street.

GLASGOW.—PREMISES.—Plans have been prepared for reconstruction and extensions in Washington-street. Mr. Robert Ewan, architect, 39, Hope-street, Glasgow.

GLASGOW.—HOUSING. — The Corporation Housing Committee has approved of the layout plans for the following schemes: Gairbraid-avenue, in Kelvindale-road, 132 tenement houses, with a children's playground and an open space; on ground fronting Shawholm-street, 48 tenement houses; and at Carlisle-street and Keppochhill-road, 108 tenement houses. The Committee have agreed to grant a site on the north side of Barrhead-road, adjoining Cowglen-road, to the Presbytery of Paisley (Church of Scotland).

HAMILTON.—OFFICES.—The Lanarkshire C.C. have decided to erect new county offices accommodation in Beckford-street. Estimated cost, £38,000.

KILSYTH.—HOUSES.—The T.C. has decided to submit offers for the erection of two blocks of hostels for aged people, comprising 32 single-apartment houses, to the Department of Health for Scotland for their approval. The total estimated cost is £5,990.

KIRKCOWAN.—RECONSTRUCTION. — Plans are in hand for the reconstruction and extension of the public school. Mr. R. G. Logan, County Architect, Wigton County Buildings, Stranraer.

LARGS.—HOUSES.—Further extensive building developments, estimated to cost over £50,000, are to be undertaken in Largs. The principal scheme involves the erection of 50 houses by Messrs. Mactaggart and Mickel in Glebe Field at £45,500. Other plans passed by the Court include warrants for the erection of eight bungalows by local builders to cost £5,990.

LOANHEAD.—HOUSING. — The T.C. has agreed to proceed with the building of 60 houses on a site situated to the east of the present municipal housing scheme at Kennington-avenue, and forming a connection with Clerk-street. Messrs. Deas and Bertram have been appointed architects.

ORMISTON.—HOUSES.—Plans are to be prepared for a C.C. scheme of 37 houses, etc. Mr. F. W. Hardie, County Architect, Haddington.

STIRLINGSHIRE.—HOUSING.—The C.C. approved of borrowing for the erection of 1,035 houses under the Housing (Scotland) Act, 1930, and 1,075 houses under the Housing (Scotland) Act, 1935, at an estimated total cost of £845,500.

STORNOWAY.—HOUSING.—The T.C. is to borrow nearly £40,000 for new housing and water schemes.

STRANRAER.—SHOP.—Plans have been passed by the Dean of Guild Court for shop, offices and store in St. John-street, for T. Harper and Son, at £1,500.

TANNOCHSIDE.—BRICKWORKS. — A new brickwork is to be erected at Tannochside Colliery, near Bellshill, by Messrs. Archibald Russell, Ltd., one of the group of companies controlled by Colvilles, Ltd.

TRADE NEWS

Change of Firm's Title.

We learn that Carrarit (Great Britain), Ltd., will be known in future as Carraratile, Ltd., and that the registered office is now situated at British Industries House, Oxford-street, W.1.

Extruded and Drawn Copper Alloy Sections.

The Copper Development Association issue from Thames House, Millbank, S.W.1, a well-produced brochure giving details and illustrations of copper alloy extruded and drawn sections for such purposes as handrails and balustrades; doors, windows and glazed screens; architraves, skirtings and general "trim." Copies of this interesting addition to the Association's list of publications are obtainable on request.

"Dorset House," Marylebone-road.

We are informed that "Dorset House," in Marylebone-road, N.W.1, now nearing completion, contains over 1,000 tons of "Durus" stone supplied by Messrs. D. G. Somerville and Co., Ltd., from their "Durus" Works, New Cross. Over 700 tons have been supplied to Grove Hall Court in St. John's Wood.

Birmingham Fire Station.

The lifts in this building, illustrated this week, include a 2,000-lb. capacity high-speed electric passenger lift, running at 200 ft. per minute, with a car of excellent design, executed in Austrian oak. The lift is equipped with automatic levelling device, and is controlled by the fully automatic push-button system. It runs in a stairwell which is protected with a striking enclosure executed in wrot-iron and chromium. There are also three electric lifts for general goods and staff duty. The lifts referred to were supplied by Evans Lifts, Ltd., of Leicester.

Oil-engined Locos.

Messrs. Ruston and Hornsby, Ltd., have issued a publication entitled "Appreciation," containing photographs showing Ruston locomotives at work and testimonials from quarry owners, sand and gravel merchants, public works contractors and other satisfied users of these machines. There are several well-known names among the users, including the Stanton Ironworks Co., Ltd., and Messrs. Stewarts and Lloyds, Ltd., while there is reproduced a letter reporting a saving of as much as 11¾d. per ton over previous costs. The firm will be pleased to forward a copy to any of our readers who write for one.

Storefitters' Annual Meeting.

At the annual shareholders' meeting of Messrs. A. Edmonds and Co., Ltd., Birmingham and London, held on November 27, we understand that preference and ordinary share dividends were paid, as has been the usual custom of the company for many years past, and an increased amount over last year was carried forward to reserve. The plans for the proposed rebuilding of offices and stores were considered and passed, and it was decided to proceed without delay in order to deal with the constantly increasing volume of work.

A Mechanical Hammer.

An electric hammer which rotates automatically when used as a drill, and at the same time is adapted to be converted into a fixed (*i.e.*, non-rotating) chiselling hammer simply by having the tool changed, is described in a booklet issued by Bosch, Ltd., Larden-road, Acton, W.3. This hammer, which we have inspected, is an excellent job mechanically and, by using one or other of the range of nine tools, may be put to a variety of uses, among which are drilling, chipping, chiselling, keying, stamping, roughening and chace-cutting. The hammer is strongly made, and a feature is that the switches are carried in the carrying case, which removes them from contact with vibration. The weight of the hammer is 17 lb.

The Health and Beauty Exhibition.

In connection with the swimming display on the bathing beach at this exhibition in the New Horticultural Hall, S.W., Messrs. Thomas Potterton (Heating Engineers, Ltd., Cavendish Works, Ravenswood-road, Balham, S.W.12, have provided a gas-fired heater for the warming of the pool, which contains some 4,000 gallons. This plant consists of a "Rex" gas-fired heater, having an output of 132,000 B.Th.U. per hour, working under thermostatic control to maintain a temperature of 70 deg. F. The heater is classed as an exhibit, and is finished in mottled enamel with chromium-plated mountings. It is fitted with an automatic cut-out and gunmetal thermostat with dial regulator.

Kitchen Plans and Sink Units.

Messrs. Henry Wiggin and Co., Ltd., issue from time to time, for addition to the reference file, copies of leaflets of interest to architects. Two of the latest are MA15—"Kitchen Plans" (which shows some kitchen plans by Mr. Oliver Hill, F.R.I.B.A., each of which incorporates a Monel metal sink unit), and MA16—"Monel Metal Sink Units" (which is intended to draw the architect's attention to the sound methods of construction and the practical design of Monel Metal sink units). Copies are obtainable from Thames House, Millbank, S.W.1.

ACOUSTIC FLOOR CLIPS

A much-needed adjunct to building construction will shortly be available for use in floors of flats, offices and other buildings where it is desirable to eliminate impact noises. The Acoustic "Bull Dog" floor clip, which was designed in conjunction with the acoustic department of Newalls Insulation Co. (a branch of Turner & Newall, Ltd.), is a new product of the Adamite Co., Ltd. It has been proved by the National Physical Laboratory to reduce the impact noise penetrating a fire-proof floor by 13 phons as compared with noise penetrating a floor of the ordinary type.

As a concrete example of what this means, if the floor above were laid half with standard "Bull Dog" clips and half with acoustic clips, a person walking on the ordinary board floor made with the standard clips would be very noticeable and possibly very annoying to the person in the room below. The fact of stepping across to the other half of the floor would make the sound appear as though it had been suddenly removed several rooms away to a distance of 50 or 60 ft. and would be unnoticeable.

The principle of the "Bull Dog" acoustic clip is to insulate the top half of the clip which holds the batten from the bottom half by a special asbestos-type material, the clip being so made that there is no metallic contact between the top and bottom halves.

We understand there will be three types of acoustic "Bull Dog" floor clips available: (1) the standard 2 in. acoustic clip for use in solid concrete or hollow tile floors; (2) the single-legged acoustic clip for use in pre-cast floors; and (3) the wood joist acoustic clip for use in buildings where there are no concrete floors but where the joists are carried on to wood floors. These clips are then used to fasten the nailing battens at right angles to the main joists. Alternatively, they can be used in buildings where it is not possible to decide at the time of construction what portions of the floor require to be acoustically treated, these clips being nailed down to fixing blocks in the concrete at a later date.

The cost of the acoustic "Bull Dog" floor clips works out at just under two shillings per square yard extra over the cost of standard-pattern "Bull Dog" clips, allowing for the clips to be spaced at 16 in. centres along the nailing battens and the battens themselves to be spaced at 14 in. centres. This cost compares favourably with that of other types of acoustic floors giving similar sound-proof properties, which brings sound-insulated floors well within the limit of cost which architects can consider.

Full details of these clips can be obtained from the Adamite Co., Ltd., Manfield House, Strand, W.C.2, who, we understand, will also be glad to supply copies of the National Physical Laboratory tests.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* *Denotes accepted.*
† *Denotes provisionally accepted.*
‡ *Denotes recommended for acceptance.*
§ *Denotes accepted subject to modifications.*
¶ *Denotes accepted by H.M Government Departments.*

Aberdeen.—Super cinema, shops and other offices in Union-street. Mr. T. Scott Sutherland, architect and surveyor, Union-street:—
Demolition and excavation—*C. Brand, Montrose.
Granite, brick and mason—*A. Masson, Aberdeen.
Steel construction—*Bladen & Co., Ltd., Glasgow.
Joinery, carpentry and ironmongery—*Calder & Henderson, Aberdeen.
Plumber work and sanitary fittings, etc.—*A. B. Robertson & Son, Aberdeen.
Slater—*J. Durnin, Aberdeen.
Heating work and installation—*J. N. Haden & Son, Ltd., Aberdeen.

Alnwick.—Houses at Shilbottle, for the R.D.C.:—
*R. Carse & Sons, Morpeth £1,950

Altrincham.—New modern schools to accommodate 480 senior boys and 480 senior girls in Wellington-road, Timperley, for the Cheshire E.C. Mr. F. Anstead Browne, F.R.I.B.A., County Architect, Chester:—
Builders—*J. E. Rangeley.
Painting—*S. S. Ford.
Plastering—*J. & J. Pilling Bros., Ltd., Manchester.
(Remainder of Rochdale.)

Audenshaw.—Alterations and additions to the Council offices, Ryecroft Hall, for the U.D.C. Mr. H. F. V. Newsome, architect, 2, Blue Boar-court, Manchester:—
*Wellerman Bros., Ltd., Hyde.

Banbury.—New headmaster's house at the County School, for the Oxford C.C. Director of Education:—
*R. D. Clifton, Banbury £1,099 13 11½

Barking.—Work, for the T.C.:
Supply of steel roof trusses and steel joists required in connection with the erection of Manor school—
Steel roof trusses—*Sanders & Forster, Ltd.
Steel joists—*Norton Bros. & Co.
Erection of the caretaker's house at Manor school—
*Borough Engineer and Surveyor £925

Bath.—Work, for the T.C.:—
Alterations and decorations at 1a, Holloway—
*F. J. Amery & Sons, Ltd. £137 10
Extension to the City of Bath girls' school—
*J. Long & Sons, Ltd. 15,545 0

Bedford.—New clinic in the London-road area, for the T.C.:—
*R. Jeakings £3,659 19 4

Benfieldside.—14 houses at Shotley Bridge, with roads and sewers, for the U.D.C. Mr. T. P. Leath, surveyor:—
H. Ayton & Sons, Ltd., Blackhill ... £4,517 10
R. Gallacher, Ltd., Blackhill 4,467 0
*G. M. Pearson, Hetton-le-Hole 4,372 3

Birmingham.—Groundsman's house at Bernard-road playing fields, for the E.C.:—
*Merrick & Ellis, Longbridge, Birmingham £660

Blantyre.—56 houses, for the Lanarkshire C.C. Mr. Peter C. Smith, Lanarkshire County Housing Architect, Hamilton:—
Excavation, brick and mason—*A. Wright & Son, Blantyre
Joinery, carpentry and ironmongery—*Munro & Janor, Uddingston.
Plumber work and sanitary fixtures, etc.—*S. Lander, Uddingston.
Plaster work, etc., and lathing—*William Jamieson & Son, Burnbank.
Slater—*J. Bertram & Son, Motherwell.
Painter—*P. Dragoonis, Burnbank.
Electric fittings and installation — *R. I. McIntyre, Glasgow.

Braintree.—Additional accommodation at the female infirmary at the institution, for the Essex P.A.C.:—
*C. O. Belcham, Kelvedon £1,378 10

Brighouse.—Mason and joinery work to Council's property, 22, 24, 25, 28, Ogden-lane, for the T.C.:—
*S. H. Ambler, Hipperholme £196 15 8

Caernarvon.—132 houses on the Ysgubor Goch estate, for the T.C. Mr. H. Evans, Borough Surveyor:—
M. A. Roswell, Wolverhampton £48,972
*P. T. Griffith, Moelyn-street, Llandudno 47,540
Francis Roberts, Trevor, Wrexham ... 46,528
Williams & Williams, Caernarvon ... 43,560

Carluke.—24 houses, etc., in Cairneymount-road, for the Lanarkshire C.C. Mr. Peter C. Smith, Lanarkshire County Housing Architect, Hamilton:—
Excavation, brick and mason—*E. Morgan & Co., Hamilton.
Joinery, carpentry and ironmongery—*J. Stewart & Co. (Wishaw), Ltd., Carluke.
Slater—*A. Dunn, Bellshill.
Plumber work and sanitary fixtures, etc.—*Duncan Johnstone, Strathavon.
Plaster and lathing—*W. Black, Wishaw.
Painter—*W. S. McDougall, Bellshill.

Chapel-en-le-Frith.—Pavilion on the cricket ground, for the Building Committee:—
Brickwork—*H. Siddall.
Joiners—*Cotterill Bros
(Both of Chapel-en-le-Frith.)

Chelmsford.—Internal redecoration of Friars School, for the T.C.:—
*W. E. Wisbey & Son £70

Chelmsford.—10 cottages at Galleywood, for the T.C.:—
*L. T. Herringshaw, Woodham Ferrers £2,802 10

Chesterfield.—Extensions and additions to the police premises at New Beetwell-street, including erection of offices with two-story building at the rear, erection of garages on ground floor and parade-room above, for the Corporation. Mr. W. A. Derbyshire, architect, Gluman Gate:—
*G. F. Kirk, Ltd., Chesterfield £6,103

Chesterfield.—57 houses at Eckington, for the R.D.C.:—
*Wm. Drabble, Mosbrough £18,439
(In lieu of tender withdrawn.)

Chipping Norton.—New headmaster's house at the County School, for the Oxford C.C. Director of Education:—
*Bartlett Bros., Witney £1,294

¶**Colchester.**—The following works contract has been placed by the War Office during the week ended November 28:—
Roofs and chimneys—Appleton & Sons, Colchester.

Cork.—106 houses at Spangle Hill, for the T.C.:—
*Edward Barrett £37,100

Coventry.—Offices and factory in Holyhead-road, for the Alvis Car & Engineering Co., Ltd. Mr. W. G. Phillips, F.S.I., architect, 48, Queensville-road, Clapham Park, London, S.W.12:—
*Allnatt, Ltd., Willesden, London, N.W.10.

Darlington.—Four houses at Killerby, for the R.D.C. Mr. H. E. Jarvis, A.R.I.B.A., architect, 44, High-row:—
*J. W. Machin, 4, Belvedere-road, Darlington.

Denbigh.—School, for the E.C.:—
*W. R. Samuel, Wrexham £16,490

Durham.—Staff lavatory and remodelling of out-offices at the South Moor Mixed School, for the County E.C.:—
*W. Wigham & Sons, Castletown, Sunderland £616

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Durham.—New school at Shotton for 480 pupils, for the County E.C. Mr. F. Willey, architect, 34, Old Elvet, Durham:—
*Walter Willson (Gateshead), Ltd., Cemetery Road, Gateshead £19,998

Edinburgh.—100 dwelling houses and other offices in Crewe-road. Mr. J. B. Gilson, architect, 30, Rutland-square:—
Excavation, brick and mason — *W. Arnott McLeod & Co., Ltd.,
Joinery, carpentry and ironmongery—*D. Wilson (Stonehouse), Ltd., Wishaw.
Glazier—*Cunningham, Dutson & Walker.
Painter—*D. & J. Stoddart.
Plumber work and sanitary fittings—*Burns & Baillie.
Plaster—*W. B. McNair, Armadale.
Slater—*W. McLean, Leith
Electrical fittings and installation—*Fairbairn.
Railings, gates and allied works—*J. Cochrane.
(Remainder of Edinburgh.)

Fairwarp (Sussex).—Construction of new tower, vestries, etc., at Christ Church:—
*Jno. Crewdson, Horley £10,450

Fen Drayton.—12 pairs of semi-detached cottages, for the Land Settlement Association. Mr. F. C. Levitt, architect, Commerce House, Biggleswade:—
Rooke & Sons, Ltd., Saffron Walden... £9,260
Baxter & Worboys, Stotfold 8,530
*Thomas Mortlock & Son, Willingham 7,788

Glasgow.—Reconstruction and additions at St. Andrews Halls, for the T.C. Mr. Thomas Somers, architect, Office of Public Works:—
*John Livingstone & Son (Glasgow), Ltd., Glasgow £2,090

Glasgow.—Reconstruction and additions to the Eye Infirmary. Sir John Burnet, Tait & Lorne, architects, 1, Montague-street, London, W.C.1. Mr. William Ward, measurer, 227, West Regent-street, Glasgow:—
Excavation, brick and mason—*R. Rodgerson and Co., Scotstoun.
Joinery, carpentry and ironmongery—*J. Laidlaw & Son, Ltd., Glasgow.
Plumber work and sanitary fittings, etc.—*McCulloch & Giffen, Glasgow.
Plaster—*G. Rome & Co. (Glasgow), Ltd., Glasgow.
Asphalt—*Scottish Speedwell Co., Ltd., Glasgow.
Heating and ventilating engineering — *J. Boyd & Son, Ltd., Paisley.

Great Yarmouth.—56 tenements on the North Denes estate, for the C.B. Borough Engineer:—
*J. R. Chase, Lacon-road, Caister-on-Sea £9,615

Great Yarmouth.—64 houses in Madden-avenue, Baliol-road and Harfreys-road, for the C.B. Borough Engineer:—
20 houses, Madden-avenue—
*J. R. Chase, Lacon-road, Caister-on-Sea £5,800
10 houses, Baliol-road—
*M. T. Lubbock, Sans Souci, Heath-avenue, Mousehold-lane, Norwich 2,920
34 houses, Harfreys-road—
*M. T. Lubbock, Sans Souci, Heath-avenue, Mousehold-lane, Norwich 10,108

High Wycombe.—36 houses at the two sites in King's Mead-road, for the T.C.:—
‡J. Eadie & Co., Wolverhampton £12,994

Hornchurch.—Steelwork for the extensions of Suttons Institution, for the Essex P.A.C.:—
*Dorman Long & Co. £3,381
(Less 2½ per cent.)

Huddersfield.—Premises at the corner of New-street and Cloth Hall-street, opposite the Midland Bank, for Messrs. Prices Tailors, Ltd., Cardigan-crescent, Kirkstall-road, Leeds. Mr. B. Nicholls, resident architect:—
*W. Irwin & Co., Ltd., Leeds.

Hull.—Works, for the E.C.—
*A. E. Jones (Hull), Ltd.—
Hall-road school, junior department £9,810
Maybury-road school, junior department 10,520
Remand home 9,996

Kenley.—Public convenience and shelter in recreation ground, Godstone-road, for the Coulsdon and Purley U.D.C. Mr. Gilbert A. Ballard, O.B.E., M.Inst.C.E., engineer and surveyor:—
*Direct Labour.

Ketton.—34 houses in various parishes for the R.D.C. Mr. G. Dolphin, North-street, Uppingham:—
Essendine cottages—
†J. W. Smith, Sewstern, Grantham £1,889 17 0
Tinwell cottages—
†J. W. Smith, Sewstern, Grantham 1,290 0 6
Ryhall Cottages—
†F. W. Porter, Colsterworth, near Grantham 4,116 0 0
Ketton cottages—
†F. W. Porter, Colsterworth, near Grantham 4,192 5 5

Kirkburton.—Additions to the Council school, for the West Riding E.C. Mr. H. Wormald, A.R.I.B.A., County Architect, Wakefield:—
*J. Ratcliffe & Sons, Ltd., Huddersfield.

Liverpool.—44 flats in Horatio and Lawrence-streets, Scotland-road, for the T.C.:—
*Unit Construction Co., Ltd. £21,482

Liverpool.—Two shops in Broadway, Norris Green, for the T.C.:—
*Rimmer Bros. £3,325

¶London.—List of new contracts to the value of £500 or over for the week ended November 23:—
Leconfield—"C" type hangars, foundations—Lavender & Bateman, Ltd., 68, Regent-street, Cambridge.
Disforth—"C" type hangars, foundations—A. Monk & Co., Ltd., Padgate, Warrington.

¶London.—Tenders accepted by H.M.O.W. for the week ended November 28:—
Stoke Newington Branch Post Office—alterations and adaptations—C. R. Price, 145, Church-street, Stoke Newington, N.
Steyning Telephone Exchange—erection—R. Cook & Sons, Ltd., Crawley.
Openshaw (Mill-street) Telephone Exchange—erection and alterations to sorting office—Fearnley & Sons, Ltd., Eccles New-road, Salford.
Chairs—O. Haines & Son, Green-street Chair Works, High Wycombe; A. & F. Howland (Wycombe), Ltd., Eaton-avenue Chair Works, High Wycombe, and Joynson Holland & Co., Ltd., Abercrombie Chair Works, High Wycombe.
Mumbles Sorting Office and Garage—erection—T. F. Howells, Ltd., 83, Bartlett-street, Caerphilly.
Hurstway Telephone Exchange—boundary fences, paving, etc.—W. Banks, 34, Catherine-grove, Greenwich, S.E.
Doncaster Auto Telephone Exchange—steel casements, etc.—Williams & Watson, Ltd., 77-9, Victoria-street, Liverpool.
Fire and thief-resisting doors—Constructors, Ltd., Tyburn-road, Erdington, Birmingham.
Dinas Powis Telephone Exchange—erection—Vickery Bros., Beryl-road, Barry, Glam.
Stamford Post Office and Telephone Exchange—alterations and additions — E. Coleman, 20, Diamond-avenue, East Kirby.
Welsh Board of Health, Cardiff—erection of superstructure—E. Turner & Sons, Ltd., Penarth-road, Cardiff.
Gipsy Hill Telephone Exchange—steel casements—Humphries, Jackson & Ambler, Ltd., Hawkens-street, Cornbrook, Manchester.
Draught screens—G. M. Hammer & Co., Ltd., Hermitage-road, Harringay, N.4.

London.—Work, for the L.C.C.:—

Erection of block 13 of dwellings at Hughes-fields estate, Greenwich—			
Hill & Gurr, Bromley	£15,260	0	0
H. Somerford & Son, Ltd.	15,135	0	0
Demolition & Construction Co., Ltd.	14,975	0	0
R. J. Rowley, Ltd.	14,830	0	0
A. T. Rowley (London), Ltd.	14,620	0	0
H. Kent (Builders), Ltd.	14,230	0	0
Henry Boot & Sons, Ltd.	14,215	0	0
T. D. Long	13,858	0	0
H. Neal, Ltd.	13,734	0	0
Holliday & Greenwood, Ltd.	13,289	0	0
W. J. Simms, Sons & Cooke, Ltd., Nottingham	13,254	0	0
A. Coldman & Son, Ltd.	12,873	0	0
*A. E. Symes, Ltd., Carpenters-road, Stratford, E.15	12,819	0	0
(Architect's estimate: £12,972.)			
Culverting of Stamford-brook sewer, Hammersmith—			
W. & C. French, Ltd., Buckhurst-hill	11,004	9	3
Howard Farrow, Ltd.	10,661	14	2
Edmund Nuttall, Sons & Co. (London), Ltd.	10,165	14	10
Metropolitan Construction Co., Ltd.	9,248	12	0
John Mowlem & Co., Ltd.	9,218	12	2
Demolition & Construction Co., Ltd.	9,011	13	0
A. Jackaman & Son, Ltd., Slough	8,497	19	3
Kinnear Moodie & Co.	8,172	6	9
Holst & Co., Ltd.	7,196	18	3
Mitchell Bros., Sons, & Co., Ltd.	7,169	11	2
Concrete Piling, Ltd.	7,118	15	7
*Richard Costain, Ltd., 18, Upper Woburn-place, W.C.1	6,402	5	7
(Chief Engineer's estimate: £7,257 18s. 2d.) (Remainder of London.)			

London.—Additional store on the Bloomfield estate, for the Lambeth B.C. Borough Engineer:—

Castle Bros., Ltd.	£187
F. Liley & Sons	178
W. L. Cook & Co., Ltd.	176
H. T. Oliver & Sons, Ltd.	170
F. & H. F. Higgs, Ltd.	165
F. J. Moreton & Son	160
H. D. Harding, Ltd.	159
*A. King & Co. (Brixton), Ltd., 77, Dulwich-road, S.E.24	145
(All of London.)	

Manchester.—Public conveniences in Palatine-road tram terminus, West Didsbury, for the T.C. Mr. G. Noel Hill, A.R.I.B.A., City Architect:—
*H. Green & Son, Manchester.
(Estimated cost: £1,600.)

Manchester.—Extensions to turbine, boiler and switch-houses at the Barton Power Station (Contract No. 21), for the T.C. Mr. H. C. Lamb, Chief Engineer and Manager, Electricity Department. Messrs. C. S. Allott & Son, consulting engineers, 1, North-parade, Deansgate:—
Builder—*J. Gerrard & Sons, Ltd., Swinton.
Steelwork—*Edward Wood & Co., Ltd., Trafford Park.
Boiler—*S. Anderson & Co., Ltd
(All of Manchester.)
(Estimated cost, £40,000.)

Middlesbrough.—Electrical lighting and power installation in new block at the West-lane hospital, for the T.C.:—
*Gray Bros., Middlesbrough £367

Newcastle-under-Lyme.—For (*a*) house for tennis professional and manager, and (*b*) tennis pavilion, bowls pavilion and workshop on the Westlands estate, for the T.C. Mr. S. A. Wilmot, architect, Bournville Estate Office, Birmingham:—

(*a*)—			
R. J. Addison, Blythe Bridge	£1,000	0	
Baddeley Bros., Wolstanton	842	0	
Phillips Bros., Silverdale	827	7	
Maddock Bros., Audley	820	0	
J. Cooke, May Bank	797	10	
Pattison & Hall, Newcastle	790	15	
Brereton & Son, Tunstall	782	0	
Fletcher & Son, Crewe	756	0	
Beech Bros., Chesterton	750	0	
T. S. Hedley & Sons, Newcastle	726	0	
*Madew & Wardle, Newcastle	695	0	
(*b*)—			
Harrison Smith Buildings, Ltd., Birmingham	1,756	0	
R. J. Addison, Blythe Bridge	1,410	0	
J. Cooke, May Bank	1,370	0	
Pattison & Hall, Newcastle	1,266	0	
Brereton & Son, Tunstall	1,188	0	
Phillips Bros., Silverdale	1,154	0	
Baddeley Bros., Wolstanton	1,128	15	
Fletcher & Son, Crewe	1,128	0	
T. S. Hedley & Sons, Newcastle	1,085	0	
*Maddock Bros., Audley	913	10	

Newport Pagnell.—Water supply schemes, for the R.D.C. Messrs. Taylor & Wallin, engineers, Saville-place, Newcastle-on-Tyne:—
Reservoir, tanks and mains—
*W. Wilson, Worswick Street, Newcastle-on-Tyne £13,000
Surface mains, tanks, etc.—
*J. R. Hardman, Collingtree, Northampton £20,300

Newport Pagnell.—Eight houses at Sherington, for the R.D.C.:—
*W. Higgins, Northampton £2,392

Northwich.—Builders' work in connection with Danefield housing site, for the U.D.C. Surveyor:—
*Hutton & Co., Barton's-place, Northwich.

Oldham.—Additional top storey to offices of the Rome Mill, Springhead, for the Lees Paper Staining Co., Ltd. Messrs. Dixon Hill & Co., F.R.I.B.A., architects, 52, Union Street:—
*Whitworth Whittaker, Ltd., Oldham.

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Penfold.—Village hall:—
*Thames Utility Bldgs. £193 6 6

Preston.—Sewerage scheme, for the T.C. Mr. R. Williams, A.M.I.C.E., Borough Engineer:—
‡W. Turner (Ardwick), Ltd., Manchester £27,733

Preston.—Reconstruction and widening of steel girder bridge over the L.M. and S. railway in Longlane, for the T.C. Mr. R. Williams, A.M.I.C.E., Borough Engineer:—
‡T. Croft & Sons, Ltd., Preston £10,335
Preston.—Supply and fixing of lay-lights in the main roof of the new baths, for the T.C.:—
*Bromsgrove Guild, Ltd., Bromsgrove £2,076

Renfrew.—New public school at Moorpark. Messrs. Charles Davidson & Son, architects, High-street, Paisley:—
Excavation, brick and mason—*C. Johnstone, Ltd., Paisley
Joinery, carpentry and ironmongery—*R. R. Connell, Lochwinnoch.
Glazier—*N. Ferguson, Paisley.
Slater—*A. C. Whyte & Co., Ltd., Carmyle.
Plumber work and sanitary fixtures, etc.—*J. Kilpatrick & Son, Paisley.
Plaster work and lathing, etc.—*D. S. Lang & Co., Paisley.
Electrical fittings and installation—*J. Bell and Son, Paisley.
Heating work and installation—*H. Tweddle & Son, Ltd., Glasgow.
Railings and gates, etc.—*J. Cassels & Son, Paisley.
Painter—*D. Murray & Son, Paisley.

Rothesay.—New baths at the Aquarium. Mr. Thomas Beveridge, architect, West George-street, Glasgow. Mr. Alexander Stephens, engineer, Municipal-buildings:—
Reinforced concrete—
*Marshall & Co. (Builders), Ltd., Cambuslang £3,402 5 5
Excavation, brick and mason—
*J. Miller, Ltd., Troon 5,238 0 10
Joinery, carpentry, and ironmongery—
*Cochrane, Glasgow 2,257 9 6
Asphalt—
*W. Briggs, Ltd., Glasgow 261 19 5
Metal windows, etc.—
*Standard Metal Window Co., Bromwich, Staffs 205 14 9
Glazier—
*J. Thom, Ayr 731 9 4
Plumber work, gasfitting and sanitary fixtures—
*W. Weir & Co., Ltd., Glasgow ... 2,012 19 6
Plaster work and lathing—
*D. Livingston & Son, Glasgow 304 5 10
Tile and terrazzo—
*Toffolo, Jackson & Co., Glasgow 1,871 0 5
Electrical fittings and installation—
*Reid & Carrick, Renfrew 867 15 8
Railings, gates and allied works—
*William Prentice, Larkhall 297 18 10
Painter—
*D. C. Murray & Co., Rothesay 295 16 1

Saffron Walden.—Two houses in Newport, for the R.D.C. Mr. A. E. Pitstow, surveyor, 25, Westroad:—
*Helmer & Dyer, High Wych £620

Salford.—For (*a*) decorations in the Maids' Home, Ladywell Sanatorium and Isolation Hospital, and (*b*) painting, etc., at various baths and Lodge-lane Wash-house, for the T.C. Col. E. B. Martin, Borough Engineer:—
(*a*) *City Engineer's Staff, Salford £250
(*b*) *Town Halls Department, Salford ... 528

Seaton.—Houses in Eyewell Green, for the U.D.C.:—

	4 parlour type.		4 non-parlour.
K. F. Mattram	£2,360	...	£2,180(*a*)
S. Critchard	1,973	...	—
A. S. Lawrence	1,940	...	1,800
‡C. H. Warren	1,931	...	1,790

(*a*) Or the whole eight houses £4,470.

Sheffield.—Installation of low pressure hot water heating apparatus at Arbourthorne North school, for the T.C. Mr. W. Geo. Davies, F.R.I.B.A., City Architect:—
*Brightside Foundry & Eng. Co., Ltd., Newhall Iron Works, Sheffield, 9 ..... £2,708 10

Sheffield.—Extension to Firth-park school, for the T.C. Mr. W. Geo. Davies, F.R.I.B.A., City Architect:—
*J. Middleton, Ltd., 78, Hoyle-street, Sheffield, ... £8,038

Shipley.—Primitive Methodist Church, for the Trustees. Messrs. W. J. Morley & Son, architects:—
*M. Booth & Son.

Shrewsbury.—Church on the Harlescott estate, for the Rev. W. E. Thompson, of St. Aikmund's and Parochial Council. Mr. H. L. North, F.R.I.B.A., architect, Llanfairfechan:—
*Treasure & Sons, Ltd., Shrewsbury.
(Estimated cost £2,500.)

Southport.—For (*a*) decorations to ground floor and first floor, exterior and interior painting of Fleetwood-road Hospital, and (*b*) decorations at Skin Diseases Hospital, for the Health Committee :—
(*a*) *Woodfall & Rimmer £409 5
(*b*) *William Watson 199 0
(Both of Southport.)

South Shields.—Work for the T.C. :—
468 houses in Prince Edward-road—
*Kettlewell, Son & Co., Ltd., Hull ... £131,769
New clinic in Stanhope-road—
*Henderson Bros., South Shields £13,044 2 2

Stirling.—Garage, filling station and other offices in Grange-road, Gorscroft, for the Auto Car Co., Ltd. Mr. John Begg, architect, 23, Rutland-square, Edinburgh :—
Steel construction—*Redpath, Brown & Co., Ltd., Glasgow.
Excavation, brick and mason—*R. Gilchrist & Son, Ltd., Glasgow.
Plaster—*Milne & Co., Stirling.
Joinery, carpentry and ironmongery—*W. Sommers, Stirling.
Heating engineering and installation—*MacKenzie & Moncur, Edinburgh.
Slater—*W. McLean, Leith.
Plumber work and sanitary engineering, etc.—*R. Gilchrist & Son, Ltd., Glasgow.
Electrical engineering and installation—*Pratt Brothers, Edinburgh.
Painter—*J. C. Rolland, Ltd., Edinburgh.

Stoke-on-Trent.—For (*a*) erection of Whieldon-road sub-station building and (*b*) Eardley-street sub-station building, for the T.C. :—
Whieldon-road—
*A. Nixon, Longton £968 4 4
Eardley-street—
*S. Kettle & Son, Longton 678 6 9

Stoke-on-Trent.—76 houses (first contract) on the Cornhill (No. 2) site, for the T.C. :—
*T. B. Cartlidge, Tunstall £23,498

Surrey.—Work, for the C.C. :—
Fencing, London-road school site—
*Merton Abbey Joinery-work, Merton £422 6 0
Alterations and improvements at Warren-road hospital, Guildford—
*Grace & Marsh, Croydon 16,989 0 0
Connecting 20 cottages on the Sheep and Well Farms, Banstead and Woodmansterne, to the main sewer—
*The Downs Estate Co. 938 3 3
Increasing the accommodation of the house and buildings on Claygate Farm, Normandy—
*W. A. Wood & Son 634 0 0

Wednesbury.—Houses, etc., for the T.C. Mr. Arthur Booth, L.R.I.B.A., M.I.Struct.E., M.I.M. and Cy.E., Borough Surveyor :—
54 houses, Bilston-road, 4 houses and shops, Crankhall-lane—*J. & F. Wootton, Ltd., Bloxwich, Walsall.
4 houses and shops, Dangerfield-lane—*A. C. S. Teece, Ltd., Wednesbury.
16 maisonettes, Bilston-road—*W. Kendrick & Sons, Tasker-street, Walsall.

Wellington (Salop).—For painting (*a*) 51 Council houses in Urban Gardens; and (*b*) 94 houses at Orelton-lane, for the U.D.C. :—
(*a*) *M. Munt £133 10
(*b*) *T. Purcell 282 0
(Both of Wellington.)

York.—Works, for the T.C. :—
24 flats, Bootham-row—
*Tarran Industries, Ltd. £5,160
Three houses, Third-avenue—
*Tarran Industries, Ltd. 1,200
Removal of foundations and laying of 9-in. sewer in Bootham-row—
*W. Birch & Sons, Ltd. 285

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